The Economist

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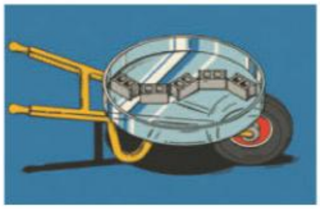
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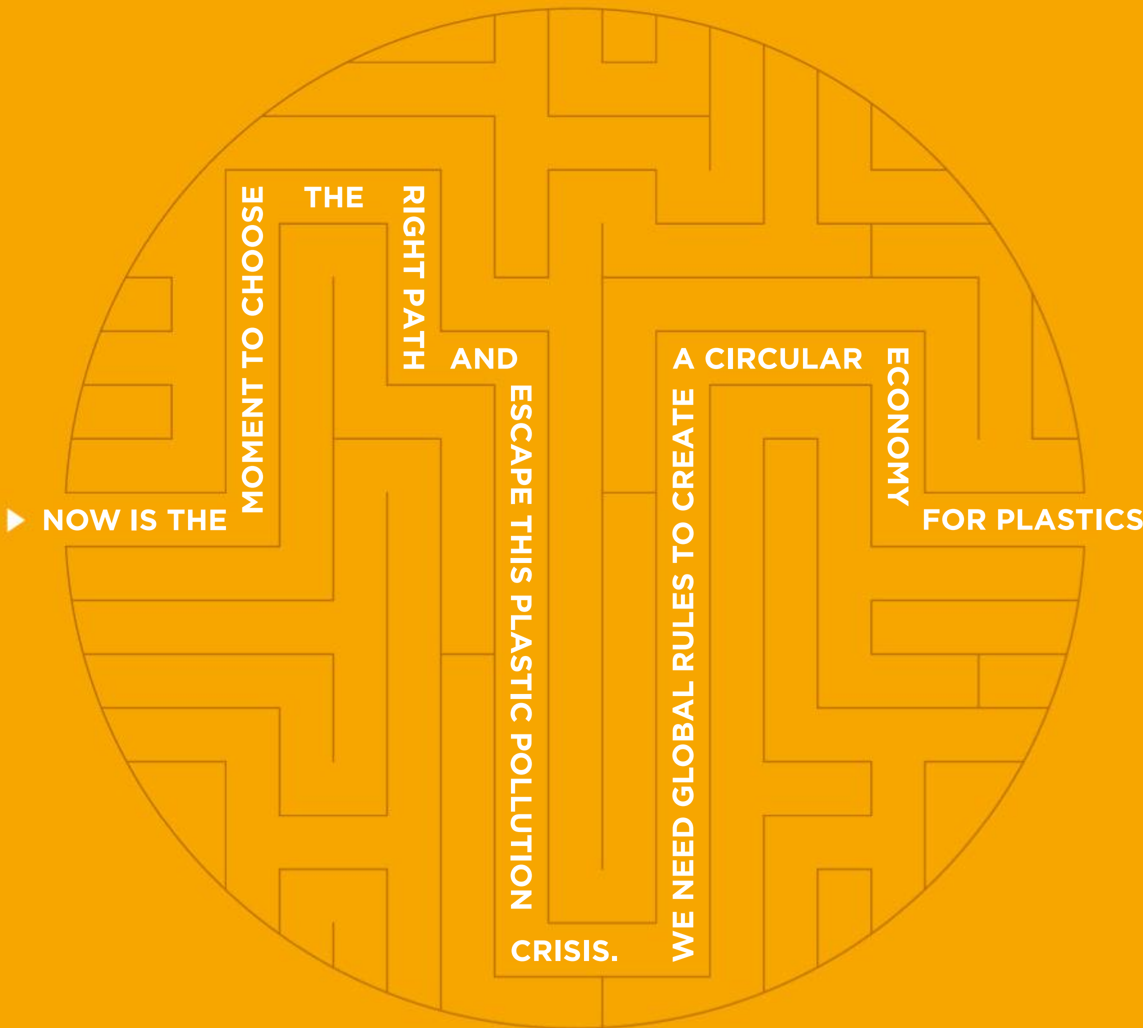


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Russian bombs and missiles have damaged half of **Ukraine's power systems**, said the Ukrainian government. Widespread blackouts are likely in the coming months, it warned. Evacuations of civilians have begun from the recently liberated parts of the Kherson and Mykolaiv regions, where Russian attacks have been especially brutal. The WHO said millions of Ukrainians face a "life-threatening" winter.

Russia's state-owned gas company, Gazprom, threatened to curtail supplies in the last operational **pipeline** connecting Russia with western Europe, which runs through Ukraine. The Russians claim that Ukraine is hoarding gas destined for Moldova; Ukraine denies this.

Courting a disaster

The International Atomic Energy Agency, the UN nuclear watchdog, reported that recent intense shelling had caused widespread damage across the site of the **Zaporizhia nuclear plant**, but that key equipment had not been affected. The head of the agency said that a major incident had been avoided by "metres, not kilometres".

Rishi Sunak, **Britain's** new prime minister, visited Kyiv and met Volodymyr Zelensky. Mr Sunak stressed that although Britain has had three prime ministers in the past three months, there has been no change in the country's solid commitment to Ukraine.

Britain's Supreme Court ruled that a referendum on independence for **Scotland** could only proceed with consent from the Westminster Parliament. The Scottish National Party, which governs Scotland, had hoped to hold a referendum in October next year.

Democrats in America's House of Representatives prepared to choose a new party leader, following **Nancy Pelosi's** decision to step down after 20 years, eight of them as Speaker of the House. The favourite for Ms Pelosi's job is Hakeem Jeffries of New York, who would be the first black person to head either party in Congress. A leadership election is scheduled for November 30th.

America's Supreme Court decided that **Donald Trump's** tax records must be turned over to a committee in the House investigating his affairs, ending his battle to thwart the committee. Separately, the Department of Justice appointed a special counsel to oversee its investigations into Mr Trump. The former president called the move "a disgrace" that was only happening because he was so popular.

A manager at a **Walmart** store in Virginia shot dead six of his colleagues and himself. In Colorado a gunman was arrested after killing five people at a **gay bar**. He might have murdered more, but a former soldier threw him to the floor, snatched away one of his guns and hit him with it.

Brazil's electoral court rejected a challenge by Jair Bolsonaro, the right-wing populist president, to the result of an election three weeks ago, which he lost to Luiz Inácio Lula da Silva by 1.8 percentage points. Mr Bolsonaro's Liberal Party wanted to annul votes cast on older electronic machines. The court said it was a "ludicrous" request, and fined the party.

On November 23rd **China** logged more than 30,000 cases of covid-19, a daily record. Areas responsible for a fifth of the country's GDP are now under some form of lockdown, according to Nomura, a bank.

An earthquake struck the West Java region of **Indonesia**, killing at least 271 people. Scores were still missing. Cianjur, a town that lies 75km south of Jakarta, bore the brunt. Many of the dead were children buried under the rubble of collapsed schools.



An election in **Malaysia** resulted in the country's first-ever hung parliament. The king appointed Anwar Ibrahim as prime minister after his reformist bloc won the most seats. Mr Anwar has sought the job for 30 years, serving as deputy prime minister in the 1990s, only to fall foul of the establishment. He was imprisoned on bogus charges of sodomy in 2015, but later pardoned. The United Malays National Organisation, which has dominated Malaysian politics since independence, won just 26 out of 222 seats.

Nepal also held an election, with a hung parliament the probable outcome. Final results are still days away, but the ruling Nepali Congress party, which aligns with India, was in front, and its main rival, the UML, which favours China, was second.

South Africa's president, Cyril Ramaphosa, took a clear lead in nominations to remain leader of the ruling party and, by extension, the country. He had faced opposition from a pro-corruption faction within the ruling African National Congress backed by Jacob Zuma, the previous (and scandal-prone) president. Separately, the Supreme Court ruled that Mr Zuma was to return to jail to serve a sentence after his unlawful parole on spurious medical grounds.

The party of Teodoro Obiang, the autocrat who has ruled **Equatorial Guinea** for 43 years, claimed to have won 99% of votes in presidential and legislative elections. The tiny petrostate locks up and tortures opposition activists and has no free press.

Israelis feared a new wave of **Palestinian** terrorism after two bombs exploded in separate incidents near bus stops on the outskirts of Jerusalem, killing at least one person and injuring more than a dozen others. Two days before, a young Palestinian was shot dead by Israeli soldiers during a raid on the restive West Bank town of Jenin. Meanwhile Binyamin Netanyahu continued to negotiate with far-right parties to form a coalition government.

Islamist parties fared poorly in elections to **Bahrain's** national assembly, which has an advisory role under the sway of the country's monarch, Hamad al-Khalifa.

Violence intensified and spread across **Iran**, particularly in the Kurdish-populated west of the country, amid protests against Islamist rule that have persisted for the past two months. Human-rights groups said that 416 people, most of them protesters, have been killed across the country since the unrest began.

A lot of upsets

Saudi Arabia's footballers beat Argentina in the **World Cup**. In another shock, Japan beat Germany. Iran's team refused to sing their national anthem, in solidarity with protesters against their piously despotic rulers back home. Some Iranian fans went further, booing their own anthem. FIFA, football's governing body, barred players from wearing One Love armbands, which promote gay rights, for fear of upsetting the Qatari hosts, who don't. Qatar banned beer from stadiums, irritating nearly everyone.

In a shock move, **Disney** ousted Bob Chapek as chief executive after just 33 months in the job, and brought back Bob Iger, the previous CEO, to replace him. Senior executives lost confidence in Mr Chapek's leadership, which came to a head when the latest quarterly earnings revealed rising losses at Disney+, the company's premium streaming service. Mr Chapek also earned the ire of the creators of Disney's content when he restructured the business around a policy of streaming first, taking creative control out of their hands. Mr Iger led Disney for 15 years during a period of growth, when it took over Pixar, Lucasfilm and Marvel studios.

Fried bankers is about right

FTX owes more than $3bn to its largest creditors, according to a list compiled for a court hearing on the crypto exchange's bankruptcy. However, a lawyer for FTX's new management team said that a large chunk of its assets are either missing or stolen. He described the firm as the "personal fiefdom" of Sam Bankman-Fried, one of the founders, and that it was run by "inexperienced and unsophisticated individuals".

Elon Musk indefinitely postponed the relaunch of **Twitter's** blue-tick verification scheme. Mr Musk introduced a charge for the service shortly after taking over the company, which has led to a large number of accounts impersonating celebrities and businesses, such as a fake Pepsi account which tweeted that Coca-Cola is the better drink. Meanwhile, hundreds more workers were reported to have left Twitter after Mr Musk imposed a deadline to sign up to "long hours at high intensity".

Mr Musk also faces problems at **Tesla**. The electric carmaker issued yet another recall, this time of 321,000 vehicles over a software glitch in their taillights. It is the 19th recall so far this year. Tesla's stock has fallen by almost 55% since December, wiping some $90bn from Mr Musk's fortune (he is still worth $180bn).

HP announced big job cuts, joining other tech companies that are reducing costs in a worsening post-pandemic environment. The computer- and printer-maker is slashing 10% of its workforce amid a slump in demand for PCs. Its chief executive said it would be "prudent" to assume that business will not pick up next year. **Dell**, meanwhile, recorded a big drop in sales of PCs to consumers and companies.



Another set of disappointing earnings from **Zoom** sent its share price sliding again. The stock is down by more than 55% this year. The video-conferencing platform faces increasing competition for new customers amid signs that companies are curtailing spending on new IT.

Elizabeth Holmes was sentenced to 11 years in prison for defrauding investors in Theranos, a blood-testing startup that was once the darling of Silicon Valley. Ms Holmes, who is pregnant, was found guilty in January. She is due to start her sentence in April.

The sale of **Simon & Schuster** to **Penguin Random House** collapsed, following a judge's decision in October to block the deal on antitrust grounds. Simon & Schuster's owner declined to join an appeal against the ruling.

Britain's public sector net borrowing came in at £13.5bn ($16.1bn) in October, down from September's figure but up sharply from the same month last year. The government's mini-budget on November 17th increased the tax burden on workers and businesses and laid out a plan to cut spending in order to reduce public sector net debt as a share of GDP, but only after the next election, which is due to be held no later than January 2025.

The OECD's latest outlook said that **inflationary pressures** have intensified. It noted that higher interest rates were starting to pay off in some countries, notably the United States and Brazil, but warned that most big economies needed to continue tightening monetary policy to "lower inflation durably".

In **Spain** the government approved a number of measures to help low-income mortgage holders cope with soaring costs. The package includes a five-year grace period during which poorer households can pay lower interest on their home loan. One consumer group reckons this will mean homeowners who take up the offer will pay more interest in the long run.

Sun, sea, and vodka

International **tourism** is on course to reach 65% of pre-pandemic levels in 2019 by the end of this year, according to the World Tourism Organisation. More than 700m people visited another country in the first nine months of 2022, up by 133% on the same period in 2021. Countries in Europe were the most visited; over the summer arrivals there reached 90% of pre-pandemic levels. Destinations with notable increases of tourists include Turkey (possibly because it is one of the few European countries that now welcomes Russians) and Serbia (ditto).



Frozen out

Europe faces a crisis of energy and geopolitics that will weaken it—and threaten its global position

If you ask Europe's friends around the world what they think of the old continent's prospects they often respond with two emotions. One is admiration. In the struggle to help Ukraine and resist Russian aggression, Europe has displayed unity, grit and a principled willingness to bear enormous costs. But the second is alarm. A brutal economic squeeze will pose a test of Europe's resilience in 2023 and beyond. There is a growing fear that the recasting of the global energy system, American economic populism and geopolitical rifts threaten the long-run competitiveness of the European Union and non-members, including Britain. It is not just the continent's prosperity that is at risk, the health of the transatlantic alliance is, too.

Don't be fooled by the rush of good news from Europe in the past few weeks. Energy prices are down from the summer and a run of good weather means that gas storage is nearly full. But the energy crisis still poses dangers. Gas prices are six times higher than their long-run average. On November 22nd Russia threatened to throttle the last operational pipeline to Europe, even as missile attacks caused emergency power cuts across Ukraine. Europe's gas storage will need to be refilled once again in 2023, this time without any piped Russian gas whatsoever.

Vladimir Putin's energy weapon will exact a toll beyond Ukraine. Our modelling suggests that, in a normal winter, a 10% rise in real energy prices is associated with a 0.6% increase in deaths. Hence the energy crunch this year could cause over 100,000 extra deaths of elderly people across Europe (see Graphic detail). If so, Mr Putin's energy weapon could take more lives outside Ukraine than his artillery, missiles and drones do directly within it. That is one more reason why Ukraine's resistance to Russia is Europe's fight, too.



The war is also creating financial vulnerabilities. Energy inflation is spilling over into the rest of Europe's economy, creating an acute dilemma for the European Central Bank. It needs to raise interest rates to control prices. But if it goes too far it could destabilise the euro zone's weaker members, not least indebted Italy (see Finance & economics section).

Even as the energy crisis rages, the war has exposed a vulnerability in Europe's business model. Too many of Europe's industrial firms, especially German ones, have relied on abundant energy inputs from Russia. Plenty of companies have also become more dependent on another autocracy, China, as an end market (see Business section). The prospect of severed relations with Russia, structurally higher costs and a decoupling of the West and China has meant a reckoning in many boardrooms.

That fear has been amplified by America's economic nationalism which threatens to draw activity across the Atlantic in a whirlwind of subsidies and protectionism. President Joe Biden's Inflation Reduction Act involves $400bn of handouts for energy, manufacturing and transport and includes make-in-America provisions. In many ways the scheme resembles the industrial policies that China has pursued for decades. As the other two pillars of the world economy become more interventionist and protectionist, Europe, with its quaint insistence on upholding World Trade Organisation rules on free trade, looks like a sucker.

Already, companies are reacting to the subsidies. Northvolt, a prized Swedish battery startup, has said that it wants to expand production in America. Iberdrola, a Spanish energy company, is investing twice as much in America as in the European Union. Many bosses warn that the combination of expensive energy and American subsidies leaves Europe at risk of mass deindustrialisation. BASF, a German chemicals giant, recently unveiled plans to shrink its European operations "permanently". It does not help that Europe is ageing faster than America, too.

Losing investment makes Europe poorer and feeds into a sense of declining economic vigour. Compared with its pre-covid GDP trajectory, Europe has done worse than any other economic bloc. Of the world's 100 most valuable firms, only 14 are European. Politicians will be tempted to chuck out the rule book and respond with subsidies of their own in an escalating arms race of corporate goodies. Germany's economy minister has accused America of "hoovering up investments". President Emmanuel Macron of France has called for "a European wake-up".

Thus the subsidy row is also feeding tensions between America and Europe. America's financial and military support for Ukraine vastly exceeds Europe's, and as it pivots to Asia to meet the challenge from China, America resents the EU's failure to pay for its own security. Most members of NATO have failed to meet the goal of spending 2% of GDP on defence. The EU was staggeringly naive about Russian aggression. Although the war caused America and Europe to unite after the ruptures of the Trump years, the danger is that a long conflict and economic tensions will gradually pull them apart again. Mr Putin and China's president, Xi Jinping, would love that.

To avoid a dangerous rift, America must see the bigger picture. Mr Biden's protectionism threatens to drain Europe of vitality even as America props up Ukraine's army, and armadas of tankers cross the Atlantic to supply Europe's energy. The chief aim of Bidenomics is to stop China dominating key industries: America has no strategic interest in siphoning European investment. It should make European firms eligible for its energy subsidies, and integrate transatlantic energy markets more deeply.

Europe, meanwhile, needs to protect its economy against the energy squeeze. Schemes that rightly aim to subsidise consumers and firms for their basic energy needs should curb demand by charging higher prices at the margin, as in Germany (see Briefing). To lower long-run energy prices Europe should accelerate the renewables revolution, while keeping energy markets open to competition. It also needs to adapt to a new security reality. That means spending more on defence so that it can take up the burden as America shifts its gaze towards Asia.

Besides admiration and alarm, the other emotion governing transatlantic relations is frustration. America is irritated by Europe's economic torpor and its failure to defend itself; Europe is outraged by America's economic populism. But just as Europe must not be divided by the war, so it is vital that the most powerful democratic alliance in history adapts—and endures. ■

The entertainment business

Disney's surprise sequel

Hollywood's biggest studio brings back its leading man. But the real problem is the script

Film critics often complain that the box office is overrun with sequels. Now so are studios' head offices. On November 20th Disney announced that Bob Iger, who ran the company for 15 highly successful years until he stepped down in 2020, would go back into the spotlight for a second act as chief executive (see Schumpeter). Bob Chapek, who lasted less than three years in the role and had presided over a 40% drop in Disney's share price this year, was sent sloping back to his trailer.

As any producer knows, a good leading man can make all the difference. Mr Chapek turned out to be a B-lister; Mr Iger, who transformed Disney's fortunes, is a megastar. But the creatives in Hollywood and the investors on Wall Street expecting a rapid turnaround at Disney should think again. The main problem is not at the top, but in the fundamental changes to the movie industry brought about by streaming, which have hurt every studio. It will take every bit of Mr Iger's star power to turn the business back into a blockbuster.



Mr Chapek was pelted with rotten tomatoes from the beginning. The pandemic, which shut cinemas and theme parks, was hardly his fault. But he frequently fluffed his lines. Unlike Mr Iger, a sunny former weatherman who charmed actors and directors, Mr Chapek, who rose through Disney's theme-parks division, annoyed Hollywood's highly strung creatives, some of whom threatened to sue when their films went straight to streaming. He was no better at handling politicians. When Florida passed a law muzzling talk of sexuality and gender identity in classrooms, Mr Chapek at first took no position, then opposed it—managing to infuriate liberals and conservatives alike. Relations with investors soured; this month a poor set of earnings blindsided Wall Street. Disney's stock rose sharply on news of Mr Iger's return.

Yet for the most part Mr Chapek was following the script left to him by Mr Iger, who had hand-picked him as his successor. The priority of both was to shovel premium content onto Disney+, the streaming service launched in 2019 under Mr Iger. The approach has paid off, winning Disney more streaming subscriptions even than Netflix, which entered the business 12 years earlier. But it has proved far less profitable than the theatrical and cable-TV industries that historically sustained Disney, along with its parks. Consumers can easily switch once they have binged on the latest series, meaning that ever more content is needed to keep them on board. Meanwhile, new rivals like Apple and Amazon have bottomless budgets. Last quarter Disney's streaming division lost $1.5bn, twice as much as a year earlier.

These problems are being felt across Hollywood. Netflix has lost more than half its market value this year. Indeed, Disney is better placed than most of its rivals. For now Disney+ is subsidised by the still-profitable parks and cable networks (the latter fast declining). And the company expects its streaming business to break even in 2024. It is sure to be among the survivors of the streaming wars. For others things look dicier. Warner Bros Discovery told investors earlier this month that streaming was proving tougher than expected. NBCUniversal, part of Comcast, and Paramount Global are unlikely to survive in their current form. (Some speculate that they may even be swallowed by Disney—if Disney itself is not first swallowed by Apple.)

As households and advertisers tighten their belts, things will only get harder in Hollywood. Mr Chapek may not be the last corporate leading man to bite the dust as things worsen. Having a star chief executive can certainly help. But studios are in for disappointment if they think that a change at the top is going to alter the brutal reality of Hollywood's new economics. ■

American politics

All we want

A wish-list of centrist proposals for the lame-duck Congress

When members of Congress return to Washington next week, Thanksgiving will be over and the annual festival of asking for stuff will begin. *The Economist* has its own wish-list for members of the House and Senate in the lame-duck session, when legislators can be more open to doing business. Since the biggest obstacle to these wishes being granted is the Senate filibuster, which means finding ten Republican votes, this list is particularly aimed at the five Republican senators who are retiring, plus those who voted for the CHIPS Act and infrastructure law, both of which passed with Republican support. In journalism, branches of government and adorations of the Magi, three is the magic number. But we are greedy, so here are five.

First, as this week's Lexington points out, hundreds of thousands of people brought to America as children—the Dreamers—still have to reapply every two years for permission to remain in the country. America's immigration system has plenty of problems, but the inability of Congress to tackle this one is striking. Do the retiring members of Congress want their successors to think it was beyond them? Some Dreamers are entering middle age. Do Senate Republicans want to keep up the pretence that they may one day be deported? And, if so, where to?

Second, fund Ukraine's heroic resistance. Vladimir Putin's strategy is to wait out the West, and bomb and freeze Ukraine into submission. Ukraine needs to know that its Western allies have more patience than Mr Putin thinks they do. Funding support for Ukraine until the end of 2023, or even better until the

end of 2024, would undermine his plan. American weapons and Ukrainian bravery have so far proved a potent combination. Out of the total Congress made available, about $19bn of security assistance has already gone to Ukraine. That is less than 4% of the Pentagon's annual budget. The administration has asked Congress to grant a further $38bn, most of it for security. What this money buys is priceless—not only Ukrainian resistance, but also American protection from Mr Putin's aggression. Senate Republicans have been firm supporters of Ukraine. House Republicans, who from January will be in the majority, may be less so.

Third, pass a reform of the Electoral Count Act of 1887. This law seemed archaic until Donald Trump used it to advance the theory that state legislatures could overturn election results, or that the vice-president could decide the outcome. The reform that emerged from the Senate's rules committee makes it clear that the vice-president's role is ceremonial and that state legislatures cannot simply declare an election "failed". It also speeds up the legal process for resolving electoral disputes. Passing it would help prevent a repeat of the violence of January 6th 2021, when Trump fans invaded Congress to force the result to change. It would also be a sign that America is repairing its democracy. Plenty of Republican senators have expressed support.

Fourth, raise the debt ceiling until the next presidential election is over. Even after Congress has appropriated money, members are asked whether they want to permit the maximum borrowing allowed, if extra is needed to make good on the IOUs they have written. A request to raise the debt ceiling comes around about once a year, though sometimes it is more frequent than that. Congress has always voted in favour, though it has occasionally done so late and only after throwing a tantrum. The incoming Republican House majority may want to use the debt-ceiling vote to extract concessions from the White House. But it is an empty threat: a sovereign default would crash the world economy and make America poorer and weaker. There are better ways to shrink the size of the state that do not involve making millions of people unemployed and destroying America's creditworthiness. Better not to pretend it is an option.

Fifth, reform permitting laws to make it easier to build new green-energy projects (including nuclear ones) and new electric grids. Through a mixture of government subsidies and private markets, the amount of capital flowing into clean-energy technologies and renewables schemes in America is poised to surge. But none of this will happen if new projects are delayed for decades by misguided rules on environmental permitting. This is an area where the White House, the swing Democratic senator, Joe Manchin, and Senate Republicans all agree.

Honour the midterm spirit

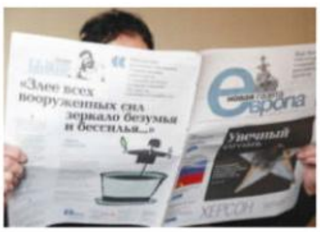
One of the heartening outcomes of the midterm elections was that the extremes did badly. Democratic candidates ditched ideas like defunding the police and were rewarded for their moderation. Our analysis of results found that Republican candidates backed by Mr Trump did about five points worse than they would have without his endorsement, and election deniers did even worse. This is a good moment to turn the assertion of the moderate centre into a legislative programme. ■

Independent Russian media

Let them shout

Russian journalists in exile need help, not hindrance

Most wars are accompanied by propaganda, aimed at breaking the enemy's will to fight. Much of Vladimir Putin's propaganda is targeted at his own people. As well as mobilising supporters, its purpose is to demoralise opponents of the war and break their will. Mr Putin's assault on Ukraine would have been impossible without years of sustained assault on the minds of the Russian public, many of whom have swallowed his story that he is defending Russia from Western aggression, rather than invading a neighbour without provocation.



Mr Putin's falsehoods, like his tanks, do not stop at Russia's borders. Ever since he decided that liberal democracy was his enemy, liberal democracies have been under attack. Russian trolls and foreign-language state media have pumped out a flood of outrageous and contradictory lies to Western audiences, hoping to undermine public confidence that anyone is telling the truth. Russia has meddled in America's elections, stoked the *gilets jaunes* discord in France in 2018, fuelled racial hatred in Germany and amplified Catalan separatism in Spain. In the Baltic states, pro-Kremlin TV channels have long tried to stir up Russian-speaking minorities.

Countering Mr Putin's propaganda in the West is hard enough. In Russia, where censors and jailers enforce the Kremlin line, it is even harder. But now Russian "offshore journalists" are helping (see Europe section). Legions of independent reporters, editors and broadcasters have been forced into exile. From havens in Europe, they are pumping real news back into Russia. Perhaps 10-15% of the population follow them. What is more, most of this audience is young and active and will play a part when Russian politics starts to change.

Some European countries are wary of these offshore journalists. For example, TV Rain, an independent Russian channel, operates from Latvia. As well as lambasting the Kremlin, it often chides its host country, too, for policies such as closing its borders to Russian citizens. Some Latvian politicians grumble that TV Rain is sticking its nose into local politics. Such nervousness is misplaced. Free countries should welcome free debate—and welcome independent Russian voices, too.

At present many such journalists and anti-war activists find it hard to enter Europe legally or remain there. Many Russian exiles therefore congregate in countries such as Georgia and Armenia, which do not require them to have visas. Russian activists who manage to enter Europe are typically treated as asylum-seekers, and have their freedom to move and work restricted. The Baltic countries are particularly stringent, while Germany and France offer humanitarian visas with different strings attached. ▸▸

This is daft. The European Union has a common interest in countering the Kremlin's disinformation. It should adopt a common policy giving exiled Russian activists permission to remain, freedom to travel and peace of mind to concentrate on their work, demand for which has never been more intense. For years, the Russian public showed little interest in independent journalism, leaving unrebutted Kremlin claptrap as by far the dominant source of news. Now, as the realisation spreads that the war is going badly and legions of young Russian men are being called up, only 22% of Russians entirely trust and follow Russian propaganda, according to a poll conducted by the team of Alexei Navalny, a jailed opposition leader. More are starting to look for alternative sources of information. Let them have some.

The Russian media-in-exile are, unsurprisingly, short of cash. This is not just because of Kremlin crackdowns; it is also because of Western actions. Tech platforms like YouTube and Facebook do not allow advertising in Russia. As about two-thirds of their audiences are there, this deprives dissident media of critical revenue (and makes reaching new viewers harder). Pro-Kremlin media are backed by the regime and use Russian platforms that censor independent news. At the same time, because Visa and MasterCard have stopped offering services inside Russia, readers and viewers of independent news cannot easily subscribe or donate money to the courageous folk who produce it. Firms should find ways to make such payments possible. And charities and wealthy Russians who want to take a stand against Mr Putin should offer their financial support.

The struggle to help Ukraine defend itself and Russia to reform itself will be long and hard. Independent Russian journalists have an essential role to play, and supporting them is ridiculously cheap. They need only a haven, Wi-Fi and a thirst to tell the truth. Let them do their jobs. ■

Global warming

Green competition

Great-power rivalry will shape the world's response to climate change

"We rose to the occasion," crowed Egypt's foreign minister after COP27, the global climate summit that ended on November 20th. Hardly. The delegates failed to make a clear commitment to phase out the use of fossil fuels. The best they could produce was a vague agreement that rich countries should pay poor ones for climate-related "loss and damage".

To the extent that this gesture may help keep the COP process on the road, it was worthwhile. But the money that has been pledged is paltry: about $260m. And countries have yet to agree on who should pay and who should receive the cash. Under the bizarre terms of the UN's climate convention, China—after America, the second-largest total emitter in history—would count as a "developing country" and so be a suitable recipient (see International section). Rich countries say, correctly, that China is far from poor and ought to be a donor. But try squaring that with President Xi Jinping.



And it is hard persuading voters in rich countries to bankroll efforts to curb climate change (which is in their self-interest), let alone to hand over vast sums to politicians in poorer countries. In theory this would compensate them for damage. But this is difficult to measure, blame is tricky to apportion and those occasionally corrupt politicians can spend the cash as they choose.

Yet more hopefully, as delegates from across the world wrangled in Egypt, there was a modest breakthrough between two superpowers. China agreed to resume formal talks about climate change with America (see China section). It is astonishing that these talks were ever suspended, given that the two countries create about 40% of global annual carbon emissions.

Alas, China's regime was so offended when Nancy Pelosi, the Speaker of America's House of Representatives, visited Taiwan in August that it broke them off, in effect putting its territorial claims above the planet's future. Happily, about halfway through COP27, Mr Xi relented. At a G20 meeting in Indonesia with President Joe Biden, he said talks could resume.

Acting together, China and America can make a huge difference. In 2014 Mr Xi and America's then president, Barack Obama, issued a statement calling climate change "one of the greatest threats facing humanity" and setting goals for curbing it. This laid the groundwork for the Paris accord of 2015, a UN agreement to limit global warming to "well below" 2°C. Were the two countries now to agree on, say, ways of financing projects to help countries adapt to climate change, or promoting global trade in green technologies, then the rewards could be immense.

But climate-change diplomacy is shackled by geopolitics. Last year China's foreign minister, Wang Yi, told America's climate-change envoy, John Kerry, that co-operation on climate matters could not be ring-fenced from the two countries' political relationship. "If the oasis is all surrounded by deserts, then sooner or later, the oasis will be desertified," he said. Menacing dunes, indeed, loom large.

In January Ms Pelosi will be succeeded by a Republican, who may find some new way to scupper Sino-American climate talks. In the longer term Mr Xi's aim is to hobble American power, and he seems unjustifiably dismissive of the idea that climate change will unleash more and nastier natural disasters on China (his government rarely blames it for the country's devastating floods and droughts).

More co-operation to fight climate change is needed. But even in its absence, great-power competition can help in some ways. In the cold war American-Soviet rivalry spurred research into technologies such as nuclear power and solar panels. Today America and China both want to dominate clean-energy technologies, and are pouring money into developing them. The rest of the world has already benefited from Chinese solar cells and American electric vehicles; more breakthroughs may follow.

Both powers are also trying to buy influence by supporting green projects in poorer countries, from flood defences to renewable fuels. Even if this is for geopolitical reasons, the results are often benign. COP27 may have been a disappointment, but the fight against climate change will be waged on many fronts. ■



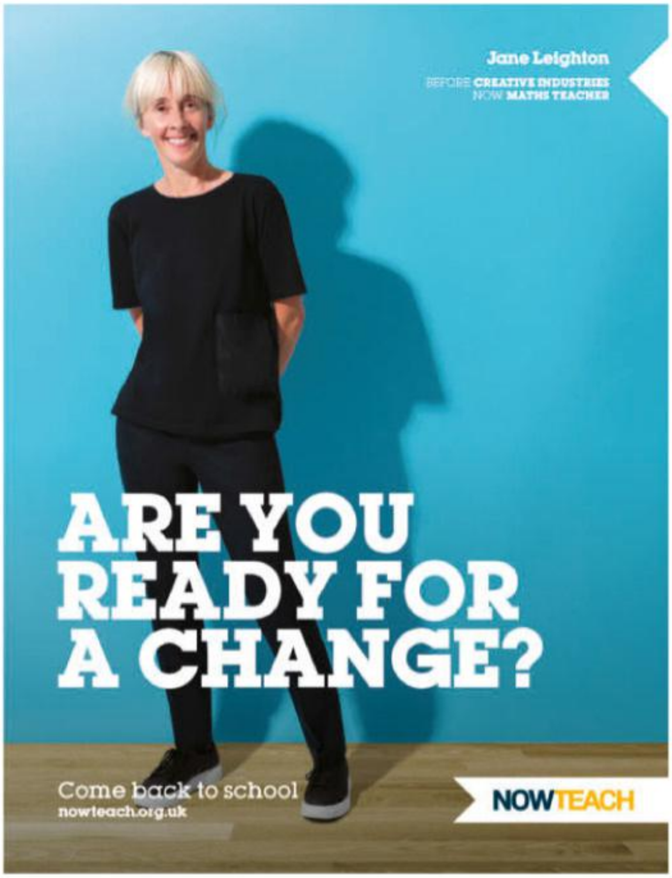
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Adapting to climate change

You characterised the options for climate mitigation as being either new energy technologies (carbon capture, hydrogen, negative emissions and so on) or geoengineering ("Goodbye 1.5°C", November 5th). This is wrong, damaging and costly. It is wrong because between voluntary behaviour change and new energy-infrastructure technologies lies a whole spectrum of options to live well using today's technologies differently. For example, since the early 1990s average car weights have risen to more than 12 times the weight of the people in them, global flights have quadrupled, mainly for leisure, and new commercial buildings have been knocked down and replaced on average in less than 50 years. Efficiency is about systems and equipment, not motors. We could have lives very similar to today's, with half the energy input, all of it electric, by changing specific equipment (such as cars and boilers) without requiring any noticeable asceticism.

It is damaging, because politicians and the leaders of high-emitting companies will take every excuse to avoid action today, if they are given any hope of easier action later. Apart from the year of the pandemic, global emissions have risen every year since we agreed to reduce them. This has been excused every year by the promise that new technologies will arrive to make the solution easier. They haven't and we cannot afford any further inaction.

It is costly because the price of unmitigated climate change is far greater than yet appreciated. The starvation of hundreds of millions of people in the second half of this century will lead to a world war of incalculable suffering. But the techno-fantasy of solving climate change with new and invisible energy technologies removes the incentive to innovate in the vast space of opportunity in which more benefit is delivered from less resources. The Tesla of material recycling, the Amazon of resource efficiency, the IKEA of retrofit, the Starbucks of tele-present meals, all are waiting to be born, once we prick the false belief that magic technologies will take away the problem.

JULIAN ALLWOOD
Professor of engineering and the environment
University of Cambridge

Your comprehensive and realistic leader on climate change nevertheless omitted one very important alternative to fossil fuels: the resources of the sea. The sun does not always shine and the wind does not always blow, but tides and waves are constant. The first patent for wave energy was taken out in 1799. You are not alone in this depressing neglect. The British government also responds mostly to the big organisations developing solar and wind power, thus ignoring the potential of what these islands have in abundance.

JANET WHITAKER
House of Lords
London

The inconvenient truth is that even in the IPCC's most ambitious emission scenario the world is expected to reach 1.5°C in 2030. We recently published research on future temperatures. The fact is that not only very optimistic but also very pessimistic scenarios are now much less probable. The likelihood of catastrophic emission levels have become very unlikely. This is because the cost of solar, wind and batteries has been dramatically reduced and because renewables now outcompete coal in certain countries even without subsidies.

However, if we do not further bend the curve of emissions and global temperature trajectories, and close the gap to get as close to 1.5°C as possible, the physical impacts of warming in excess of 2°C will threaten the lives and livelihoods of billions of people. The original Bretton Woods conference in 1944 created the financial architecture required to lift the world out of the darkness of the second world war. A similar Bretton Woods meeting to reset the priorities of the world's financial architecture is required to prepare the global system to deal with climate change.

FRANK VENMANS
Assistant professorial research fellow
Grantham Institute
London School of Economics
STEVE WAYGOOD
Chief responsible investment officer
Aviva Investors
BEN CARR
Analytics and capital modelling director
Aviva Group
London

One adaptation example you cited was to give farmers hardier strains of crops. This is innovative, but there are also biological seed treatments that boost yields in degraded soil while potentially eliminating the need for nitrogen fertilisers, hence no emissions.

Or, instead of focusing solely on cyclone warnings or building dykes as flood protection, how about 3D printing geopolymer cement homes that are hurricane proof. They have the added benefit of a 90% lower carbon footprint and can be up to 30% more affordable than a traditionally built house. Adaptation versus elimination of global warming shouldn't be an either/or, it should be an "and". Too many compromises are what got us into this mess in the first place, so we now need to get our act together and both adapt to and fix the problems at the same time.

HELEN LIN
Partner
At One Ventures
London

I was depressed to read the section on adapting farming to tackle climate change in your special report on climate adaptation (November 5th). A similar recipe for improving African farm productivity could have been cut and pasted from any number of reports from a range of institutions over the past three decades. The recipe goes like this: first quote an analysis by the World Bank or some other respected big-hitter, then mention something about potential gains in applying improved technology taken out of a report from CGIAR (a network of agricultural institutes), then list some new silver-bullet remedies, ending with an upbeat assessment of how these "solutions" will pay for themselves.

Sensible people involved in African agricultural development will tell you that it is not the amount of money being spent that is the problem but the quality of the spending. There are no silver bullets.

The most ineffective use of money is to endlessly fund the same institutions that have not been effective enough to make a substantial difference over past decades. Isn't it time to give up the CGIAR so that we can smell the coffee?

ROB MOSS
Agronomist
Ashford, Kent

"Adaptation has always been the neglected stepchild of climate policy," you say. Indeed, adaptation is often overlooked. Perhaps world leaders should recall this perspicacious advice attributed to Charles Darwin, which arguably applies to countries as well as species: it is not the strongest that survive, nor the most intelligent, but the ones most responsive to change.

MARK EVERS
Lake Oswego, Canada

Being a big fan of Pink Floyd I enjoyed your choice of titles in your briefing. Might I suggest "Obscured by clouds" or "Meddle" to lead the section on geoengineering, "More" as the projection of carbon-dioxide levels and "The piper at the gates of dawn" to finish it off.

ERIC BORREY
Sydney

Letters are welcome and should be addressed to the Editor at
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Email: letters@economist.com
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Chilling prospects

BERLIN AND BRUSSELS

Despite appearances, the costs and ill consequences of going without Russian gas are growing

JUST FIVE panicked months ago, with flows of natural gas from Russia plummeting and rationing and economic devastation looming, the European Union approved an edict ordering members to ensure that their gas-storage facilities were at least 80% full by November 1st. In the end, they easily beat the target. Storage is currently 95% full, with more gas waiting to be unloaded from a fleet of tankers idling off Europe's coasts.

That is not the only indication that Europe is in for a less bitter winter than seemed possible only a few months ago. Natural gas to be delivered in the first quarter of next year is selling for about €125 ($130) per megawatt-hour (MWh), down from over €300 during the summer. Wholesale power prices in Germany, Europe's biggest economy, have plunged from a peak of more than €800/MWh in August to less than €200 this week.

As a result, the feared economic meltdown has not materialised. German industrial production ticked up in September and unemployment remained stable at 3%. An early estimate of GDP growth for the EU as a whole in the third quarter compared with the previous one came in at 0.2%—not much, but not a recession either. Employment continued to grow. Retail sales were up, too, hinting at undaunted consumers. Has Europe's crisis ended before it even started?

The answer, sadly, is no. Europe's politicians are spending lavishly both to obtain alternative supplies of energy and to shield consumers from high prices. But the energy crisis is far from over and rifts within Europe over how to deal with it are widening. Inflation is accelerating. The massive expense of energy subsidies is creating big fiscal problems. And the frantic scramble to keep the lights on has distracted governments from other pressing business. Europe's crisis has only just begun.

Power struggle

Energy is at the heart of the continent's misfortunes. Although the wholesale gas price has fallen to about €125/MWh, as recently as last year it was below €20. Problems that contributed to the spike in the power price over the summer, including the shutdown of several French nuclear plants for repairs and low water levels due to drought in the rivers and reservoirs feeding Europe's hydropower plants, persist, despite some improvement. And Russia still sells some gas to countries in southern and eastern Europe, and this week threatened to create yet more havoc in energy markets by cutting off supplies.

Russia used to provide 40-50% of the EU's imports of gas. After the Russian invasion of Ukraine in February, Europe began trying to wean itself off Russian gas, albeit slowly, as there were no easy substitutes. But Russia abruptly throttled exports in June, and now supplies only about 15% of Europe's imports. The EU's plan to do without Russian gas has three main strands. The first has been to secure as much gas as possible from other suppliers, and so to fill storage to the roof in the hope of avoiding physical rationing over the winter. To that end, Germany built its first facility to import liquefied natural gas (LNG) in record time; it will start operating in January. Long-planned pipelines from Norway to Poland and from Poland to Slovakia have opened, helping to diffuse gas around the continent. And European buyers have outbid prospective Asian purchasers of LNG to build up stocks for the winter.

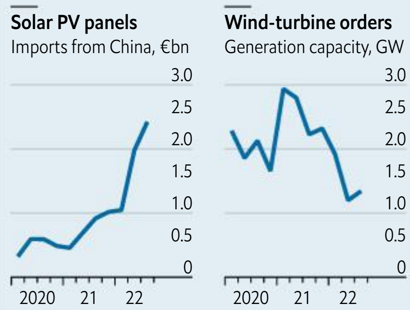
But no big new additions to global supplies of gas are expected until the middle of 2024. So next year Europe will again have to compete with Asian buyers. Competition may even be fiercer if China's slump owing to covid-19 abates. And this year Europe imported lots of Russian gas until June; next year it will have a bigger short-

fall to make up. That leaves Europe (and Asia) facing high prices for the next 18 months or so.

Hence the second element of Europe's strategy: to use less gas to generate electricity. Germany, home to a strong anti-nuclear lobby, belatedly and reluctantly agreed to extend the life of its last three reactors, albeit only until April. A few mothballed coal-fired plants have been cranked back up, despite the pollution that entails. And governments across Europe tried to accelerate the deployment of renewables, using tax cuts in Belgium and France, for instance, and by cutting red tape in the Czech Republic and Italy. Imports of solar panels leapt this summer as Russian gas exports evaporated (see chart 1, left panel).

Despite all this, however, the amount of gas-fired power has actually grown, because of the big reductions in nuclear and hydropower generation. EDF, the state-owned operator of France's nuclear plants, keeps revising down its generation forecasts. Although a wet autumn has refilled reservoirs in the Nordic countries, hydropower remains curtailed in Italy. And it takes time, whatever the incentives, to expand wind-power in particular. Orders of wind turbines, a good indicator of future output growth, dropped sharply in the second quarter of 2022 and barely recovered in the third, according to WindEurope, an industry group (see chart 1, right panel).

Sunny but still 1
European Union



Sources: Bruegel; Wind Europe

Power cut

The third element of Europe's response to the supply shock has been to try to curb demand for both gas and power. EU countries have consumed about 10% less gas so far this year, compared with previous ones. Power consumption is also down, though not as much.

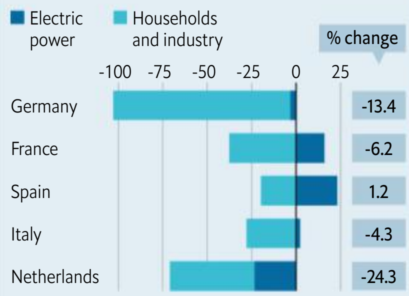
Some unseasonably warm weather has dampened demand for gas for heating. The high prices of both gas and power are also encouraging parsimony to some degree. The problem is that many European governments are determined to shield consumers from the full effects of the gas shortage, for fear of the economic and political consequences. France, for one, has capped the price of gas at last year's level and that of power just 4% higher than last year. It intends to increase these caps by only 15% in 2023. Spain has subsidised the use of gas in electricity generation to bring down prices. And Italy, which generates 40% of its electricity from gas, has cut taxes on both power and gas consumption. The inevitable result is that these countries have cut back much less than Europe's other big economies (see chart 2).

Such disparities in conservation efforts go against another injunction from the EU, that its members cut gas consumption by 15% across the board. Indeed, when it comes to energy policy, Europe seems as short of solidarity as it is of gas. A proposal to issue common EU debt to fund energy subsidies in member-states whose budgets are too stretched to allow them to do so individually was shot down by Germany. This week the EU is arguing over a proposed cap on wholesale gas prices.

The European Commission has suggested a ceiling of €275/MWh on the benchmark European futures contract, provided global LNG prices are at least €58 lower. That is too high for some countries such as France and Spain, which fear the cap may never actually kick in. But a lower one would trouble others, including Germany, in case it leads to shortages, as gas is diverted to other parts of the world. And it is anyway not clear how well the cap would work in practice, given that private sales, as opposed to contracts traded on exchanges, would be exempt.

The bickering reflects diverging interests. German industry depends on gas, and would rather pay swingeing prices than risk rationing. France does not consume much gas, but is importing lots of power to compensate for its nuclear shortfall. It is keen on any measure that might suppress wholesale power prices. Spain has a pipeline to Algeria and ample capacity to import LNG, so is unlikely to run short. But the price it pays for some of the gas it imports is tied to the European benchmark, so it has a strong interest in capping the price. And then there are other countries, such as Italy and much of eastern Europe, where the fiscal and economic implications of high gas prices are so grim they are willing to try anything to ease the burden.

Abstinence v incontinence 2
Natural-gas demand, by sector, Jan-Oct 2022
Change on 2019-21 average, terawatt hours



Source: Bruegel

These divisions will presumably worsen as the economic outlook gets gloomier. The current strength of the economy is mostly a holdover from the past. Firms sit on a record number of orders left unfulfilled because of the pandemic and subsequent disruptions to supply chains. Households in richer countries still retain savings that accumulated when restrictions on travel and fun made spending money hard.

Moreover, whereas inflation seems to have peaked in America, in Europe it is still accelerating. The share of items in the basket used to calculate inflation whose price has risen by more than 4% over the past year is growing. The delayed impact of higher energy prices thanks to subsidies will drag out the period of high inflation. That, in turn, is more likely to lead to jumps in wages and the price of services, and so prolong the spiral of rising prices. Senior figures at the European Central Bank (ECB) have suggested that a further sharp rise in interest rates will be needed.

No wonder, then, that surveys suggest that European firms are dreading the next couple of months. The commission's latest forecast sees a mild recession during the winter and stagnation for the rest of 2023. Goldman Sachs, a bank, reckons that Europe's economic output will be permanently reduced by 2-3% as a result of higher energy prices.

Power switch

Substitution away from expensive energy could halve that cut in output, Goldman reckons, and some of that substitution is happening. A recent survey by IFO, a German research institute, found that 75% of manufacturing businesses in Germany have cut back on gas without curtailing production. It is the other 25% that are the problem. Basic chemicals, metals and ceramics are struggling to remain competitive. Bosses of such firms have been jumping up and down. Forswearing Russian gas, the CEO of BASF, a big German chemicals firm, said in April, would "destroy our entire national economy".

The response of the broader public to Europe's energy crisis has been more muted. There have been some protests at rising prices and strikes over wages that have failed to keep pace. But there has been no continent-wide movement akin to the *gilets jaunes*, protesters who brought parts of France to a standstill in 2018-19 over the cost of living. In fact, the relatively few big protests in recent months have tended to ▸▸

focus on local issues. A demonstration that organisers said brought some 670,000 people onto the streets of Madrid on November 13th was focused on health care, not energy prices. The share of Germans willing to support Ukraine despite high energy prices has remained at 70% or higher since July, according to Forschungsgruppe Wahlen, a pollster.

Another poll, commissioned by the EU over the summer, as energy prices were at their highest, found that 70% of Europeans felt good about the financial situation of their household. Asked about their work, people said their prospects had improved and were likely to keep on doing so. Yet at the same time, two-thirds of Europeans thought the health of their country's economy was bad—and notably worse than before the war. Although they were aware of the baleful consequences of the energy crunch, in short, few respondents felt it had impacted them much directly.

This relaxed attitude, however, stems from the lavish subsidies that many EU governments are doling out, which are unlikely to prove affordable in the long run. Since September 2021, €573bn of public money has been allocated to keeping energy prices affordable, according to Bruegel, a think-tank. Nearly every country has given up tax revenue from energy, for example by cutting VAT. There have also been bail-outs of utilities, transfers to poorer families and in many cases, blanket subsidies for all households and industry.

The largesse is distributed unevenly, both within and among European countries. Germany alone accounts for €264bn, while Sweden has spent less than €2bn. The total planned expenditure, which is due to last years in some cases, equates to nearly €3,000 for every European household, almost as much as is devoted each year to education. The European Commission believes that more than two-thirds of all the spending is untargeted.

There has not been much discussion of whether these policies are a good use of public funds or how they will be paid for, although Germany's scheme, despite being untargeted, does at least preserve an incentive to curb consumption (and Britain did partially unwind a ludicrously generous handout to households earlier this month). The "whatever it takes" strategy adopted during the pandemic, during which governments tried to absorb most of the economic harm done, has been largely replicated. "We are in a situation where companies need our support, in order to protect Germany's economic fabric," intoned Robert Habeck, Germany's economy minister, in September.

The generous handouts, however, not only blunt Europeans' incentives to conserve energy, but also weigh on government budgets. Some countries can afford to be generous. The likes of Denmark and the Czech Republic have low government debt and could splurge for years. But southern Europe has far less leeway. Italy, Spain, Greece and France went into the crisis with debt-to-GDP ratios of over 100%. Their energy-support schemes will add 3-6 percentage points to their debts.

Although EU rules imposing caps on public spending on governments with debts of over 60% of GDP have been suspended, the debt burdens built up during the course of the pandemic and the energy crunch will constrain budgets for years to come. What is more, over the coming decade the need to spend more both to combat climate change and to succour an ageing population will weigh on public finances yet more. And the question of how quickly spendthrift governments should reduce their debts is already a fraught topic within the EU.



Some policymakers fret that much more debt will make markets jittery. Christine Lagarde, head of the ECB has warned European finance ministers that a surge in public spending could lead to a more rapid rise in interest rates. Countries with especially towering burdens may need the ECB to help prop up their debts.

At the very least, the subsidies will squeeze out other spending. On November 20th Italy's new government, headed by Giorgia Meloni, postponed some of its election programme, including tax cuts. Instead, it will give a further dollop of aid to households and businesses, adding a further €30bn to the €75bn already committed since the start of the crisis.

Power drain

By the same token, the focus on energy is consuming all European politicians' time and attention, to the neglect of any other policymaking. With so much concern about getting through the coming month or year, little thought is being given to economic measures that will bear fruit over a longer timeframe. That is nothing new: since covid-19 struck, awkward reforms have been repeatedly postponed. In France, for example, President Emmanuel Macron shelved a contentious overhaul of pensions at the outset of the pandemic. Other countries are trying to worm out of reforms they committed to in order to secure cash from the EU's post-pandemic recovery fund.

Policymakers had once hoped that 2022 and 2023 would be a period of economic overhaul of a similar ambition to Mr Macron's abandoned pension reform. Unemployment was at record lows, in part thanks to covid-era stimulus policies, which might have made painful changes seem more endurable. "The public had seen how generous the state had been [during the pandemic], and maybe would have understood if they had been asked to make efforts, for example on retirement ages," says a European official. With both French and German elections out of the way, the electoral cycle also posed fewer impediments than usual.

But that opportunity for reform, if it ever existed, has been obliterated by Mr Putin's energy crisis. Plans to increase Europe's competitiveness have been deferred once again. Money that could have been spent helping those harmed by economic restructuring has gone on energy subsidies instead. The most painful injury inflicted by the gas shortage, in other words, has yet to be felt. ■



Disorganised crime

Anybody's thing

CHICAGO

Organised crime is much less organised than it was

THE CORNER of Archer and Kedzie, on Chicago's South West side, is far from being the city's prettiest intersection. What it does have, however, is wide streets, which in the early hours of October 23rd made it a perfect place for a car meet. These, which are especially popular among young Mexican-American men, involve a caravan of fast cars and huge modified trucks known as "rammers" taking over a road junction to perform tricks. Mobile-phone footage shot by an attendee shows a sports car spinning doughnuts at high speed, tyres screeching, while onlookers hold up their phones to record it. And then the camera suddenly dips, as the sound of gunfire cracks out, followed by screaming. Five people were shot. Three died.

Finding out what happened that night is tricky. The police said only that the three who died, all boys and young men, aged from 15 to 21, were affiliated to gangs. Yet according to a community activist who has pieced together the details, the spark was a dispute between two street gangs attending. One was Two Six, a Latino street gang named after 26th Street in Little Village, the centre of Chicago's Mexican community. The other was a "set" of the Almighty Latin King Nation, a group with origins as a Latino self-help organisation in the early 1950s that turned into a national (and indeed international) organised-crime group. "They got into a staring match, a bit 'what are you looking at'," says the activist. Soon they were shooting at each other. Now there are fears of escalation. "Thank God it's not the summertime," she says.

In the Chicago newspapers, the shooting was covered as just another tragic incident in the city's more violent neighbourhoods. Over 600 people have been murdered so far this year—in fact a modest decrease from last year's tally. Yet people in the neighbourhood say that this sort of sudden, spontaneous violence is new. And one of the reasons why is that youth gangs these days are much less organised than they were in the past. Instead of tightly knit, hierarchical organisations, most gangs these days are better described as "cliques" (and usually are by academics). They generally comprise as few as a dozen young men, who band together to protect themselves. Large mafias, with exclusive territory, political connections and extensive business interests, barely exist any more. The Latin Kings in particular are an example of a gang still in transition.

Even a few years ago, the Kings still had a sort of corporate structure, not unlike that of the Italian-American mafia. Members had to be of "Latin" descent (typically but not exclusively Puerto Rican or Mexican). To join, they had to go through an initiation ceremony in which they consented to being beaten up for a fixed amount of time. Members were expected to follow certain rules laid out in a secret "manifesto" apparently written in prison some time in the 1950s or 1960s—not taking hard drugs, for example, even if they sold them, and paying proper respect to family members. Violations were punished with "violations"—more ritualistic beatings. Each March, members would fast, perform com- ▸▸

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munity works and donate money for the families of killed or incarcerated colleagues, in a celebration known as "Kings Week". Court documents depict an organisation with a strict hierarchy, with a "Corona", or boss, at the top, and a collection of "Incas", or captains, running sets, as well as enforcers maintaining loyalty.

At its peak, the organisation had chapters all over America, particularly in big cities with large Latino communities. It was heavily involved in the drugs trade, but also made money from extortion rackets and by protecting illegal businesses, such as those involved in the sale of fake Social Security numbers. Much of that still goes on. But these days the group is less vertically integrated. Gang members still buy drugs, guns and ammunition from leaders, and perhaps pay up some of their profits as "dues", in exchange for using the title King. But they are not subject to as much of a command structure. The leaders stay further away from the street and increasingly sell their wares to non-members too. The rules and rituals—like the celebration of Kings Week—are disappearing.

This deorganisation of crime is largely due to one of America's most successful laws—the Racketeer Influenced and Corrupt Organisations Act, or RICO, which was passed in 1970 to target the Italian American mafia, or *La Cosa Nostra* ("our thing"). Over the past five decades, that law has been deployed to target the leadership of hierarchical crime groups. In the 1980s and 1990s it crippled the mafia, as hundreds of its members were imprisoned. But it has since been used more widely. The Latin Kings have been among the groups hit hard. In 2012, Augustin Zambrano, the Chicago-based nationwide "Corona" of the Kings, who the FBI said at the time was in charge of 10,000 members in Illinois alone, was imprisoned for 60 years after an extensive RICO investigation that also targeted 30 other members.

"These days, Americans don't see in the news the violence of transnational organised crime but they're actually threatened more," says Joseph Gillespie of the FBI. There are still people committing damaging crimes—such as importing fentanyl, which killed 71,000 people last year—or running big fraud operations. But according to Mr Gillespie, the groups behind this are more specialised, have fewer members and are far less territorially organised than in the past. Instead of having, in effect, a large permanent staff, they hire services as they need them. "It used to be easier for us, in decades past, when they wore their titles on their sleeves," he sighs.

What this adds up to in the United States is that the middle level of crime has been hollowed out. At the top of rackets like the drugs trade, there are importers, brokers and money launderers who stay away from violence. At the bottom are thousands of small street gangs which may carry out a lot of retail distribution of drugs, as well as other crimes, but which are only loosely affiliated to larger organisations. This, jokes Peter Reuter, a criminologist at the University of Maryland, mirrors changes in the legitimate economy. "Conglomerates were the darlings of the 20th century," he says. Serious criminals are now specialised and outsource the low-skilled, risky stuff. "The gig economy is alive and well in the criminal world."

Yet in America's poorest neighbourhoods, as the shootings in October show, the sheer effectiveness of cracking down on organisation has unintended consequences. Freelance gang members who are not subject to command may in fact be proving more trigger-happy. A generation ago, for example, in rougher parts of Chicago, a young man could walk through a rival gang's territory unmolested by showing a sign of respect—a "party sweater" worn over the shoulder. That no longer works. "You have even started having Latin Kings killing other Latin Kings. It doesn't even make sense," says one former member. When the government imprisoned the leadership, "they orphaned all of these warriors, and the warriors responded with violence", this member says. Planned murders are now rare. But spontaneous shootings like the one in October are common. ■

Shoplifting

Orc invasion

NEW YORK

Why it's hard to buy deodorant in Manhattan

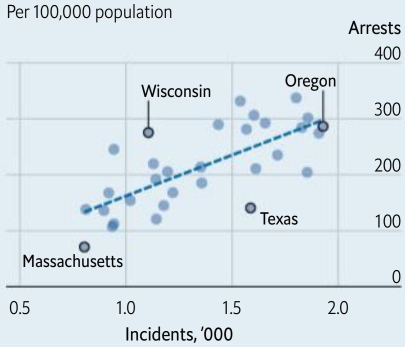
CUSTOMERS DASHING into a Manhattan pharmacy for deodorant these days are confronted with shelves of locked glass boxes. Buttons marked "call for assistance" bring managers over to unlock them on request. Stores have responded to an uptick in shoplifting by revamping security systems, or closing down. Rite Aid, a pharmacy, closed a branch in Hell's Kitchen in February after losing $200,000 worth of stuff last winter. And last week Target, a big retailer, reported that a rise in "shrink" (to use the industry jargon) had reduced its gross profit margin by $400m so far this year. The National Retail Federation says inventory loss, largely driven by theft, cost retailers a record $95bn last year.

What is behind this unwelcome rise? Some speculated that prosecutors had gone soft on looting after the Black Lives Matter protests in 2020. But it is hard to see any such trend in the data: generally states with more shoplifting prosecute more shoplifters (see chart). A more likely culprit is a rise in organised retail crime (ORC). Carefully planned operations, where criminal groups steal large amounts of swag to flog for a profit, have grown "exponentially" in scope and sophistication in the last few years, says Lisa LaBruno of the Retail Industry Leaders Association.

A stink of shrink

United States, larceny-theft rates*, 2020

Per 100,000 population



Sources: FBI; Census Bureau *Excl. states with incomplete data

The most stolen items include deodorant, laundry detergent, razors and infant formula, which are in consistent demand and are easy to sell on. ORC groups typically use online marketplaces to sell their stolen wares. Last summer a couple in Alabama pled guilty to shifting $300,000-worth of stolen baby formula on eBay. Despite this, Ms LaBruno notes, there has been "little to no progress" in convincing e-commerce firms to identify and shut down criminal actors and suspicious sales. A federal law making it tougher to sell stolen goods online is making its way through Congress. The bill would force high-volume third-party sellers to provide a physical address, bank account number, and tax ID, making illicit transactions riskier. This could be voted into law as early as December.

On October 17th the Department of Homeland Security launched "Operation Boiling Point", a co-ordinated federal and local effort to disrupt ORC gangs. Several states have established organised retail crime task-forces, including Utah, Illinois and California. This is a start. But as Karl Langhorst of the University of Cincinnati, points out, many of these gangs operate across state lines. He thinks the government should go further and pass the first federal law creating a nationwide database of offenders.

Washington, DC

The homeless decline

WASHINGTON, DC

Despite the abundance of tents in the capital, the city is doing a good job

MOST INHABITANTS of the nation's capital would probably be surprised to learn that homelessness rates are declining in the city. Some people have lived on the streets for years, but encampments multiplied during the covid-19 pandemic. One such tent community greets commuters as they trek between Union Station, the city's main rail hub, and the US Capitol.

Yet there is cause for celebration. Despite appearances, homelessness has actually decreased by 47% (from 8,350 to 4,410 people) in Washington, DC, since 2016. Muriel Bowser, the mayor, credits her initiative, Homeward DC, for the improvement. Launched in 2016, the programme replaced a large shelter, DC General, with smaller facilities and support services, revamped the family homeless services system and opened a new men's shelter.

Before it was closed, as many as 1,000 people (or 270 families) sheltered in DC General, a dilapidated former hospital. Almost nine years ago a young girl named Relisha Rudd disappeared from the facility. She was never found. Ms Bowser closed the facility in 2018 and replaced it with seven smaller shelters, each of which houses 50 families or fewer. The city now provides temporary housing year-round to families, rather than only when legally required during cold winter weather.

The city has also tried to intervene earlier, offering support to people before they become homeless, explains Laura Zeilinger, the director of DC's Department of Human Services. This might include help with a utility bill, assistance with a landlord, or mediation services to help housemates solve conflicts that might otherwise land a person on the streets. All told the initiative has cost the city $300m since 2016. It is supported mostly with local funds, federal covid relief funding and the American Rescue Plan.

Yet despite the improvement, the tents remain. The unsheltered homeless are the hardest to help: they are more likely to be unemployed and to have severe health problems. During the pandemic, the Centres for Disease Control and Prevention encouraged officials to leave tent communities alone. Campers became more settled, explains Ms Zeilinger. While the number of homeless people living in encampments stayed steady, some accumulated belongings and multiple tents. This created the appearance of a growing community, she explains.

Jurisdictions matter too. Some tent communities in the District of Columbia are on federal land, such as the encampment between Union Station and the Capitol, and thus beyond the city's reach. The National Park Service cleared the tents in June, but some have since returned.

DC is hardly alone in having a homelessness problem. The Department of Housing and Urban Development, a federal agency, reported that 326,000 Americans were in shelters on a single night last year (a decrease from 354,000 in January 2020). This measure does not capture everything, though. Whereas many seek help in shelters, some live on the streets or in dwellings where they are difficult to track. Others live in vehicles or stay with friends or acquaintances temporarily. People also move in and out of homelessness throughout the year, a fact that will be missed by a data point captured in one evening. School data can provide some insight. According to the National School Boards Association, nearly 1.4m pupils were homeless at one time in 2019.

While DC's efforts have been impressive, the single best policy for reducing homelessness is to expand the housing supply. Studies have found that as many as half of people in shelters participated in the labour market, but wages are often not enough to avoid homelessness. According to the National Low Income Housing Coalition (NLIHC), no person working full-time on the federal minimum wage ($7.25 per hour for 40 hours for 52 weeks per year) can afford a two-bedroom rental in any state. In Arkansas (the most affordable state) a person needs to earn $14.89 per hour to afford a two-bedroom rental, while the state minimum wage is $11 per hour. Hawaii is the worst. A person needs $40.63 per hour in Hawaii, over three times the state minimum wage of $12 per hour. A one-line manifesto for homelessness in America would be: copy DC, clear the tents and build more. ■



The way things were

Appointing judges

Bench press

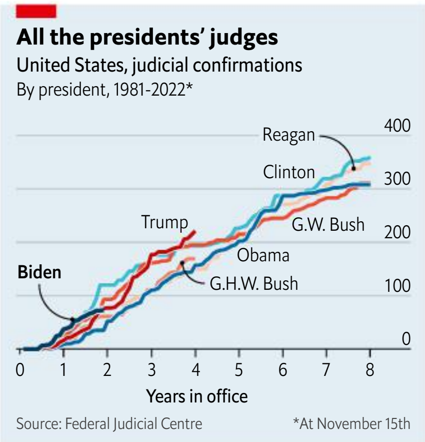
NEW YORK

With a Democratic Senate, Joe Biden has a chance to rebalance the judiciary

THE MOST enduring legacy of Donald Trump's presidency are the 234 judges he installed in the federal courts, amounting to more than a quarter of America's judiciary and a third of the Supreme Court. Now that Democrats have retained control of the Senate, Joe Biden can make a mark of his own. He has already seated 85 judges, including 25 to the powerful circuit courts of appeal and one—Ketanji Brown Jackson—to the Supreme Court.

Whereas Mr Trump's judges style themselves as "originalists"—followers of what they take to be the original meaning of the constitution—Mr Biden's appointees largely eschew labels. Leah Litman, of the University of Michigan, says the 85 are "quite moderate and cautious", in contrast to Trump appointees who "pen opinions suggesting courts should radically revisit the law". Two caustic examples are James Ho of the Fifth Circuit Court of Appeals, who has opined on the "moral tragedy of abortion", and Lawrence VanDyke of the Ninth Circuit, who in January mocked his colleagues by filing a bizarre faux opinion in a case involving covid restrictions and the right to bear arms.

The less ostentatious jurists who have ▸▸



joined the federal bench under Mr Biden are the most diverse in history. Of the 85, 64 (or 75%) are women. Nearly a quarter are African-American; two-thirds are non-white. Mr Trump's judges are mostly male (76%) and white (84%). Mr Biden is taking a cue from his predecessor on youthfulness: the average age of his nominees is 47; two recent choices for appeals-court seats are still in their 30s. According to Russell Wheeler of the Brookings Institution, a think-tank, more than a third of Mr Biden's first-year appointees had worked as public defenders, including then-Judge Jackson. Progressive lawyers focusing on racial equality, voting rights and reproductive liberty have been in the mix, too

In 2022 Mr Biden has nominated more former prosecutors (six, up from two in 2021). John Collins, of George Washington University law school, sees this as a sign he is reaching out to Republican senators to "keep the nomination pipeline flowing". Mr Collins notes that several former prosecutors—Cindy Chung in Pennsylvania, Doris Pryor in Indiana and Jabari Wamble in Kansas—have nominations pending for seats in red or purple states. Justice Jackson's vacant seat on the DC Circuit Court was filled by Florence Pan, a moderate who clerked for a conservative judge. On one occasion Mr Biden's deference to Republicans spurred a backlash among his supporters, and he backtracked on plans to nominate an anti-abortion judge in Kentucky as part of an ill-fated deal with Senate Republican leader, Mitch McConnell.

Mr Biden's aisle-crossing appeals may have helped smooth the path for his judicial nominees in a 50-50 Senate. None has been voted down. Most have received some Republican support. Only a handful of votes in the Judiciary Committee have split down the middle, spurring "discharge petitions" to get the nomination to a full Senate vote. And only once has vice-president Kamala Harris been needed to break a tie.

If Raphael Warnock wins re-election in Georgia in his run-off election on December 6th against Herschel Walker, the impact, according to Josh Chafetz of Georgetown law school, would be "huge". A 51-49 Senate would move more efficiently, lining up floor votes without the risk of time-consuming discharge petitions. Democrats would press on with controversial judicial nominees even if one of their caucus is absent for a vote, notes Brandon Hasbrouck, of Washington and Lee University. Mr Collins reckons the extra seat might liberate Mr Biden to be "a little more aggressive" by choosing more progressive nominees.

Democrats may have another weapon up their sleeves. During the Trump administration Senator Chuck Grassley, as Republican chair of the Judiciary Committee, abandoned the tradition of giving a potential circuit-court nominee's home-state senators veto power over the nomination. Dick Durbin, the committee chair for the Democratic majority since 2021, has not revived this erstwhile "blue slip" process for appeals-court judges. But blue slips remain for district-court vacancies. If the GOP chooses "maximal obstruction" in the new Congress, Mr Chafetz says, Democrats may "get fed up and do away with blue slips" for those seats, too.

With the House of Representatives moving to Republican control and legislative prospects dimmed, Mr Biden and the Democratic majority in the Senate should have plenty of time to focus on judicial nominations. Of the 116 current or expected vacancies in federal courts, 50 await a nominee. But no matter how quickly Democrats rush to fill those, Mr Biden's confirmation record by the end of his term may not quite match that of his predecessor. Mr Collins says there are only 17 more circuit judges appointed by Democratic presidents who will be eligible to retire by the end of the 118th Congress. "Republican-appointed circuit judges", he adds, "just aren't retiring under Biden". ■


The pinnacle

Racial gaps

Loan to values

Racial discrimination in mortgage lending has declined sharply

"ATLANTA'S BLACK neighbourhoods are under attack." So wrote the editors of the *Atlanta Journal-Constitution* in May of 1988 upon the release of "The Colour of Money", a series of articles documenting racial disparities in mortgage lending in Georgia's most populous city. The Pulitzer Prize-winning investigation, which analysed $6bn-worth of home loans made over six years, found that Atlanta banks made five times as many loans to white neighbourhoods as black ones, and rejected black applicants four times as often. The reaction was swift. Demonstrators marched through bank lobbies, the NAACP urged black residents to withdraw their bank deposits and the Justice Department launched an investigation into discriminatory lending practices.

Much has changed in the 35 years since "The Colour of Money", and yet racial disparities in mortgage lending remain. Data reported under the Home Mortgage Disclosure Act (HMDA) show that 15% of black applicants were denied conventional mortgage loans in 2021, compared with just 6% of white applicants, a ratio of more than two-to-one. Black homeowners seeking to refinance their existing loans were rejected 24% of the time, compared with 12% of the time for whites. Some lenders have been singled out. A recent analysis by *Bloomberg News* found that Wells Fargo, a bank, approved less than half of refinancing applications filed by black homeowners in 2020, compared with nearly three-quarters of those filed by white customers.

To many Americans, such wide discrepancies in lending are proof of discrimination. A survey conducted in 2020 by the Pew Research Centre, a think-tank, found that 49% of American adults—and 86% of African-Americans—believe that black people are treated less fairly than white people when applying for a mortgage. But bankers have long argued that imbalances in mortgage approval rates reflect underlying differences in creditworthiness, not racial bias. Indeed African-Americans fare significantly worse than whites on several key lending criteria. Credit scores of black borrowers, for example, are about 8% lower than those of white borrowers. Their debt-to-income levels, meanwhile, are about 10% higher. Black borrowers have much higher loan delinquency rates, too.

For decades the conventional wisdom was that both economic factors and dis-

crimination played a role in lending patterns. A seminal study by economists at the Federal Reserve Bank of Boston, published in the *American Economic Review* in 1996, analysed nearly 3,000 loan applications submitted to Boston-area lenders in 1990. The researchers found that credit histories, debt-to-income ratios, loan-to-value ratios, and other strictly economic factors explained more than half of the difference in denial rates between black and white applicants. But race mattered, too. Even after accounting for their creditworthiness, black mortgage applicants were rejected about 1.8 times as often as whites.

But new research by economists at the Federal Reserve Board suggests that such discrimination is less widespread than it was 30 years ago.* Using a dataset of nearly 9m loan applications submitted in 2018 and 2019, the authors found that 17% of black applicants were turned down, compared with 8% of white applicants. But after controlling for the results of automated underwriting systems, which reflect the underwriting guidelines of government-sponsored entities like Fannie Mae and Freddie Mac, and cannot take race into account, this gap was cut in half. After other relevant risk characteristics such as credit scores were controlled for, this figure fell to less than two points—a result that the authors describe as "significant progress".

What explains the improvement? Laurie Goodman of the Urban Institute, a think-tank, says that the decline of manual underwriting is one factor. "I'm sure automated underwriting, where very little is done manually, has made a difference because it leaves less discretion." Stricter enforcement of the Fair Housing Act and the Equal Credit Opportunity Act, which prohibit discrimination in lending on the basis of race, is another. Last year the Justice Department launched an effort to crack down on "redlining" by financial institutions—the practice of denying credit to particular neighbourhoods. Since then the department has reported four lawsuits and settlements worth a combined $38m.

Experts point out that although mortgage underwriting systems are becoming less biased, the data fed into them may still reflect historical discrimination. These data can be improved, says Ms Goodman. "If the issue is credit scores, let's figure out how to make credit scores better and more reflective of people's true creditworthiness." Overall, though, the picture is one of progress. "I think it's fair to say that there's still some discrimination, but it's not very common," says John Yinger, an economics professor at Syracuse University. ■

*"How Much Does Racial Bias Affect Mortgage Lending? Evidence from Human and Algorithmic Credit Decisions," N. Bhutta, A. Hizmo and D. Ringo (Board of Governors of the Federal Reserve System).

Drug policy in New York

Roll-up, roll-out

NEW YORK

The Empire State reckons it has got cannabis legalisation right

ZURONG CHEN faces steep competition. His unassuming shop, Long Wong Bakery II, is one of seven hawking red-bean buns and egg tarts along a small stretch of Avenue U in Brooklyn. When he embarks on his new business venture, however, Mr Chen will briefly encounter hardly any competition at all.

On November 21st Mr Chen was one of 28 entrepreneurs to be granted New York's first retail licences for cannabis. Like the others, Mr Chen operates a small business and has a marijuana-related conviction or is closely related to someone who does. The state's goal is to push those harmed by the war on drugs to the front of the queue in New York's burgeoning recreational-weed market before retail licences open for all by the middle of next year. A further eight licences went to nonprofit organisations, such as Housing Works, which says it will use weed sales to support New York's homeless HIV-positive population.

New York is not the first state to prioritise "social equity" in its cannabis-licensing roll-out. But its size makes it matter more than most. Its cannabis market could be worth $4.2bn by 2027, according to MPG, a consulting group. New Frontier Data, an industry-intelligence firm, expects New York to surpass all but California in sales within just three years.

New York's entry into weed retail is leading a third wave of legalisation, after California's pioneering licensing of medical marijuana in 1996 and the recreational markets set up in Colorado and Washington state a decade ago. When New York became the 15th state to legalise adult-use cannabis, in 2021, it could learn from a rich array of existing market models.


A budding business

There is ample room for improvement. Connecticut reserved half its retail licences for people with cannabis convictions, but is charging an out-of-reach $3m a pop. New Jersey let its existing medical-marijuana operators gobble up retail permits, squeezing out upstarts. Florida requires its dispensaries to be vertically integrated—from cultivation to transport—all but guaranteeing that only big firms can enter. Just 22 companies operate 475 dispensaries; one, Trulieve, runs a quarter of them. And Oklahoma has enacted virtually no licensing restrictions apart from a $2,500 fee. Oversupply is an understatement: it has fewer than 4m people and more than 2,000 dispensaries, more than any other state.

Axel Bernabe, senior policy director of New York's Office of Cannabis Management (OCM), says the state will mimic Washington's "two-tier market". Just as Budweiser cannot run a liquor shop, big cannabis brands will not be allowed to operate their own retail stores, in order to democratise shelf space. At the launch Damian Fagon, OCM's chief equity officer, addressed critics of the thoughtful, if somewhat convoluted, roll-out. "When they tell us there are easier ways to do this, we will ask: easier for *who*?"

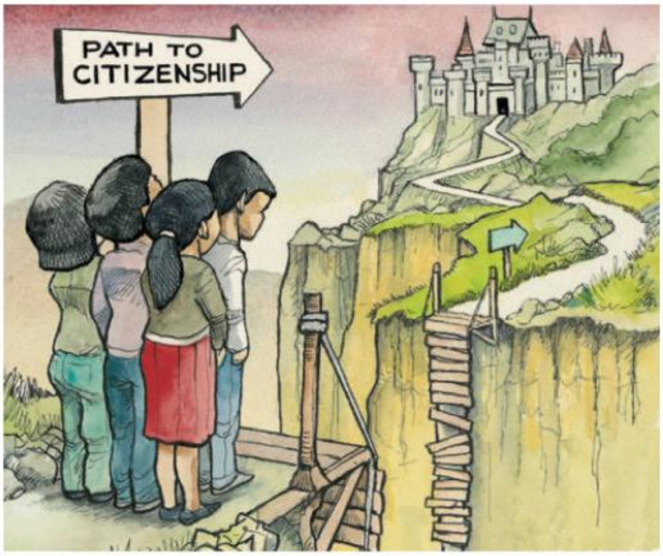
A few groups spring to mind. Cultivators, who were granted conditional growing licences months ahead of any sellers, have a $750m glut of product sitting in the fields. Next, law enforcement awaits a practical mechanism to stop the unlicensed sale of weed. Many consider California's illicit market, which has undercut its regulated one, to be a cautionary tale. Lastly, OCM itself could have defined its application criteria more loosely and had an easier time of things. A legal challenge from an applicant who was convicted out-of-state has blocked OCM's licensing roll-out in several regions. The office plans to award 175 equity licences before it opens up general licensing next year; it has so far distributed one-fifth of them.

Mr Fagon's question is nonetheless a good one. Balancing the interests of investors, activists, small entrepreneurs and the established medical providers, in an historically unjust and federally still-illegal industry, is hardly a straightforward task. New York is attempting to acknowledge, if not satisfy, all the various parties.

Licensees do not yet have bricks-and-mortar premises, which will be built by the state, but they can soon start deliveries. Naiomy Guerrero, an art historian from the Bronx, is ready to go. After all, she says, she is from "a family of legacy operators". ■

Lexington | When Dreamers are deferred

Congress should act now to protect immigrants brought illegally as children to America



THE COMPETITION is admittedly not fierce. Yet in the long history of giving names to bills and executive orders, there has surely been none so packed with double meaning and poignant implication as "Deferred Action for Childhood Arrivals" (DACA). That was the name that President Barack Obama gave his order covering hundreds of thousands of people, known as Dreamers, who were brought to America illegally as children. They dreamed of becoming citizens but were at risk instead of being expelled, a danger stayed by Mr Obama's order.

Along with their deportation, their dream has been deferred for a decade now. It could come to an end unless Congress, which has deferred action for so long, does something at last to rationalise and humanise America's immigration laws. The lame-duck session after Thanksgiving, the day Americans celebrate their welcome as immigrants by the continent's natives, will not be the last chance to do this, but it is surely the best for a long time to come. Once Republicans take control of the House in January, the odds of progress on DACA, or anything else related to immigration, will grow long indeed.

This is true even though immigration hardliners struggle to come up with a bad thing to say about Dreamers. For all his alarm over illegal immigration, Donald Trump found it difficult as president to argue that the Dreamers did not belong in America.

Mr Obama's initiative allowed "childhood arrivals" who had grown up among Americans to emerge from the shadows to pursue higher education and get permits to work. "You're taking this group of people who would otherwise be working illegally as waiters and housekeepers and making them engineers and accountants," says Ike Brannon, an economist with the Jack Kemp Foundation who has studied the economic effects of DACA. "It's a pure increase in human capital." A study he co-authored in 2019 found that eliminating DACA would cost its recipients $120bn and the federal government $72bn in tax revenue. "Those losses would come without any offsetting gains," the paper drily concluded.

To qualify, applicants for DACA status had to have come to America before the age of 16 and by June 15th 2007 (which leaves out the hundreds of thousands of children who have come since). They could not have serious criminal records, and they must have been in school, graduated high school or served in the armed forces. To keep their status they had to renew it every two years, at a cost of $495, and they had no opportunity to become citizens. As of June there were about 600,000 people in the programme, and the average participant was 28. A study last year by the Centre for American Progress found that 343,000 of them were in jobs deemed essential by the Department of Homeland Security.

You may not have focused on DACA in some time. Matters became quite confusing during Mr Trump's presidency. Mr Trump said he loved the Dreamers and had great compassion for them. Yet to fulfil a campaign promise and demonstrate his ferocity when it came to immigration, he ordered that the programme be ended. But he acted so clumsily in doing so that the Supreme Court blocked his order, saying it lacked a firm legal basis.

That did not end the Dreamers' legal jeopardy, however, because Mr Obama's original order, too, was challenged in the courts, also as being poorly constructed. In October a federal appeals court upheld a lower-court ruling that Mr Obama acted illegally because the programme was not subject to public comment and notice as required under the Administrative Procedure Act. The appeals court sent the case back down to the original judge, asking him to evaluate an order issued in August by President Joe Biden in an attempt to strengthen DACA's legal foundation.

The upshot is that Mr Biden has managed to stall but not prevent the probable return of DACA to the Supreme Court. Chief Justice John Roberts sided with the court's liberals to preserve DACA during the Trump years, but, since a sixth conservative subsequently joined the court, he is no longer the swing vote. Congress is the only sure route to protecting the Dreamers.

To grow up undocumented in America is to live with the fear that a misstep might bring immigration officials to the family's door. It is to stifle ambitions for education and career. Mr Obama's initiative has not erased such fears for its recipients, but it has allowed Dreamers to live fuller lives. "There's not a day I don't think about my status," says Bruna Sollod, who came to America at the age of seven and now, as a DACA participant, is senior communications and political director for United We Dream, a pro-immigrant group. She sees a glimmer of hope in the lame-duck session. "What I'm pushing is citizenship," she says. "As someone who lives in two-year increments, it's not a way to live."

Lame DACA session

The question, as so often, is whether ten Senate Republicans will join with the Democrats to break a filibuster. Negotiations are under way among a handful of senators. To have any hope of an agreement Democrats would need to disappoint some activists by yielding on questions of border enforcement or amnesty. Polling shows Republicans overwhelmingly support a pathway to citizenship for people brought to America as children. But Republican senators are far more fearful of their activist base voters, some of whom want to reduce not just illegal but legal immigration.

Yet it is to reach such difficult compromises on important matters that the Senate exists. If it cannot pull its act together during the lame-duck session on DACA, and on other critical questions like financing the federal government and defending Ukraine, the Senate might consider adopting the name of Mr Obama's initiative as its slogan. After all, deferred action is becoming its stock in trade, and most Americans, whether they were delivered by a smuggler across the border or by an obstetrician in a maternity ward, were childhood arrivals. ■



Mexico

A divided country

TAPACHULA

Andrés Manuel López Obrador wants to develop the poorer south

THE VERDANT slopes of the Tacaná volcano in Chiapas, a state in Mexico's south, produce delicious coffee, but growers have long struggled to turn a profit. In the past six years that has started to change, says Fernando Gamboa, a farmer. A group of his peers formed a branded co-operative in 2016, after getting advice from a charity. Since then they have produced more coffee and of better quality. They now sell it to Toks, a national chain, which paid 112 pesos ($5.80) per kilogram this year, up from 65 in 2017. "We have money not only to invest in the land but to buy more food and maybe a pair of shoes," he says.

Mexico has become richer over the past three decades. Because of a free-trade pact with the United States and Canada, which came into force in 1994, the country's exports have grown from 12% of GDP in 1993 to 40% in 2021. But progress was uneven. Factories along the northern border and in central Mexico churn out cars, aerospace parts and medical devices. By contrast the south has yet to find a productive niche. Chiapas is among the country's three least attractive states for investment, according to IMCO, a think-tank. The other two, Guerrero and Oaxaca, are also in the south. In Chiapas three-quarters of people are poor, according to a measure which takes into account access to services (see map on next page). Its residents are the least educated of all Mexico's 32 states, with just over seven and a half years of schooling on average.

Mexican presidents have long promised grandiose plans for the south, only for little to change. In 2018 Andrés Manuel López Obrador, the first modern-day president to hail from the south, was propelled to power partly by promising to reduce poverty and inequality in the region. Many southerners receive monthly cash of around 5,000 pesos from the government for taking part in a programme that encourages rural folk to plant trees. The president is also building three of four big infrastructure projects in the region, including an oil refinery in Tabasco and the Maya train, a railway that will go through five southern states. He is upgrading roads, railways and ports along the Isthmus of Tehuantepec, the shortest route between the two coasts. The president also forced Constellation Brands, an American beermaker, to build a brewery in Veracruz instead of Baja California in the north after holding a dodgy plebiscite in the northern state.

At the same time, the United States government is investing in Central America and southern Mexico, in the hope that this might reduce emigration. Organisations funded by USAID, the government's development arm, work with farmers such as Mr Gamboa to help them grow more and better crops, and to connect them to buyers. In July USAID began to spend $30m in southern Mexico on similar projects.

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Southern discomfort

Mexico's southern states suffer from many problems. For a start, they are farther from the United States, the main market for Mexican goods. The region is also full of small farmers using outdated techniques. Its infrastructure is shoddy. Mexico's public investment accounts for just 2.5% of GDP, down from a high of 6% in 2009. Since the 1980s there has been no southern regional development plan, notes Guillermo Wo of Fidesur, a government body to boost southern investment. And its educational standards are often hindered by powerful teaching unions. For decades teachers in Oaxaca have gone on strike every ▸▸

year. In 2016 they sparked riots that led to half a dozen people dying and hundreds of people being injured.

Nonetheless, southern states have opportunities to thrive, reckons Ana Gutiérrez of IMCO. Covid-19 and tensions with China have spurred American companies into nearshoring. Between 2020 and 2021 exports, mainly of food, grew by 65% in Oaxaca and 34% in Chiapas. Mexico itself, the world's 15th-biggest economy, is a big market for the south's produce. Although the country's overall growth has been lacklustre compared with its peers, Mexican consumers are getting richer. Last year GDP per person was $9,255, up from $7,773 in 1993 (in 2015 prices). Many are willing to pay more for organic products. More high-value agricultural processing could also be done in the south. Tourism could be lucrative. Chiapas has Mayan ruins and a jungle.

It makes sense for Mr López Obrador's government to seek to boost industrial investment. But his boondoggles in the south are unlikely to do much to change the fortunes of its residents. He claims his pet oil refinery has generated around 35,000 direct jobs and a further 165,000 indirectly. However, many of these jobs, such as for building contracts, are short-term. And the oil project will slow Mexico's transition to clean energy, which could discourage foreign investment. Companies such as General Motors, an American carmaker, say they may hold off investing more in Mexico because its dirty energy will cause them to miss their green targets.

Similarly the Maya train is opposed by many of the people whose fields or villages it will despoil. A better use of government funds would be to improve local infrastructure such as the electricity grid, to make sure people have a reliable and affordable energy supply. Mr Gamboa grumbles that his village only got power in 2019.

Better education and training is also needed, not least as it would help southern Mexicans find better jobs, probably in the north. It would go some way to reducing the number of people working in the informal sector. Over 60% of Mexico's workers do not have formal jobs, and so do not pay taxes or receive benefits.

Southern Mexico has a better chance of getting richer than much of Central America, where there are smaller domestic markets, says Marco Gonzalez-Navarro of the University of California, Berkeley. But in order to do so, the president needs to improve the investment opportunities in the country as a whole. Southerners are free to move to other parts of Mexico to improve their lives, and should not be dissuaded from doing so. But a broader problem is that Mexico is no safer since Mr López Obrador took power. Corruption and crime remain rampant. And the climate for foreign investment in the country still depends on the president's whims. ■

A broader border effect

Mexico, poor people*, 2020, %



Source: INEGI *The Mexican poverty line is a composite measure of income, food, health care, education and housing



Brazil

Crying foul

SÃO PAULO

Jair Bolsonaro's dodgy challenge to Brazil's election result

WHEN JAIR BOLSONARO lost his bid for re-election on October 30th, he said nothing for 44 hours. Then, when he spoke, he did not explicitly reject the result, though he did not concede, either. Many saw this as a victory, of sorts, for democracy. Mr Bolsonaro, the right-wing populist president of Brazil, had spent years casting doubt on his country's electoral system, which relies solely on electronic ballots. For months he had insinuated that Luiz Inácio Lula da Silva, his rival, could only win if it was rigged. When Lula, as he is known, won by a mere 1.8 percentage points, many people expected Mr Bolsonaro to contest the result.

Three weeks later, he tried to do just that. On November 22nd Marcelo Bessa, a lawyer, submitted to the electoral tribunal a 33-page request on behalf of Mr Bolsonaro's inaptly named Liberal Party. They claimed, as they long have, that Brazil's electronic voting machines are untrustworthy. They urged the electoral tribunal to annul all votes cast on machines dating from before 2020. They argue that these machines are insecure, as they do not have individual identification numbers. This would affect 280,000 machines, or 59% of the total. If this were to occur, Mr Bolsonaro would win with 51% of the vote, they say.

The tribunal gave his team 24 hours to provide a report to support their argument, which they did not do. As a result the court rejected the complaint and fined the party 23m reais ($4m) for acting in "bad faith".

Brazil's voting machines have been used successfully since 1996. They do not need identification numbers: they can be identified by a unique digital certificate. The implication was that the machines could have been swapped for others with fake votes inside. But the machines' security was never questioned before Mr Bolsonaro found it useful to do so. Experts agree that they tally votes quickly and fairly.

Lula has been confirmed as Brazil's next president by the electoral authority; he will come to power on January 1st. His victory was quickly recognised both by foreign governments and by many of Mr Bolsonaro's supporters in Congress. The electoral tribunal's president, Alexandre de Moraes, a Supreme Court justice whom *bolsonaris-*

Bello The bard of Cuba

Pablo Milanés, a great musician and critic of Stalinism, has died

THE FIRST time this columnist heard Pablo Milanés perform it was at an improvised Saturday afternoon concert in a shantytown on the desert outskirts of Lima in 1986. He was accompanied on that and many other occasions by Silvio Rodríguez. They were the tireless musical ambassadors of the Cuban revolution when, despite its police state, it still inspired some respect for having expelled the *yanquis* and for its achievements in health care and education. Over the following decades the revolution shrivelled into a repressive pastiche. But Mr Milanés, who died of cancer in a hospital in Madrid on November 22nd, grew and grew. He was a voice, a musician and a poet, a transcendent Cuban who was critical of his country's regime but loyal to its people. His death, in voluntary exile, comes as the island plumbs new depths of desperation.

Born in Bayamo in Oriente, the heartland of Fidel Castro's revolution, the young Mr Milanés soon got into trouble with the new authorities. He was sent to do military service in one of Castro's work camps for "anti-socials", escaped, and was imprisoned again before eventually finding a niche in the government's arts institute. There with Mr Rodríguez and others he founded the *nueva trova*, the new song movement which married political commitment with folk music. But while Mr Rodríguez remained loyal to the genre and the government, Mr Milanés quickly outgrew both. The two eventually fell out.

His voice was melodious, as smooth and rich as 20-year-old rum. He was a musician of rare versatility, a guitarist, pianist, singer and composer who released 50 albums. His influences ranged from baroque and renaissance music to Afro-Cuban rhythms (he was black himself), *boleros* and the pre-revolutionary sounds that would find renewed fame in the Buena Vista Social Club. Early on he set to music verse by Cuban poets such as Nicolás Guillén. In an extraordinarily fertile period in the late 1970s and early 1980s he found his own poetic voice.

In "Yo pisaré las calles nuevamente/de lo que fue Santiago ensangrentada" ("I will once again tread the streets of blood-stained Santiago") he mourned the coup against Salvador Allende in Chile and those who died at the hands of General Augusto Pinochet. But it will be his love songs that will last. They are lyrical but taut, carnal, bittersweet, of loss as much as rapture. In "Para vivir" ("To live") he urges his lover to abandon a relationship that "lacks flesh and desire too". In "El Breve Espacio", "todavía quedan restos de humedad/sus olores llenan ya mi soledad/en la cama su silueta/se dibjua cual promesa/de llenar el breve espacio/en que no está" ("Traces of dampness still linger/her smells now fill my solitude/her silhouette drawn on the bed/a promise of filling the brief space where she is not").



Political disillusion crept into his work like a melancholy Havana morning. In "Días de Gloria" ("Days of Glory"), "I live with ghosts who feed [us] dreams and false promises." He was critical of the survival of Stalinism in Cuba, of the lack of rights and freedoms, of the lack of reform. He thought, correctly as it turned out, that the regime's rapprochement with the United States under Barack Obama would not lead to much. He remained of the left, true to the ideals of the revolution, he said, but "defrauded" by its leaders. He moved permanently to Spain for medical treatment. Last year protests broke out across Cuba, against privation, blackouts and the mismanagement of the pandemic. The government responded with mass arrests. Mr Milanés didn't mince his words: "It's irresponsible and absurd to blame and repress a people that has sacrificed and given everything for decades to sustain a regime that in the end imprisons them."

Cuba's ruling communist bureaucrats began to criticise Mr Milanés as a "counter-revolutionary", but they feared him. He was far bigger than they were. Over the past year, on what became a farewell tour, he performed in both Havana and Miami, one of the few Cuban artists applauded in both places. His death comes as the country sinks ever deeper into demoralisation. Over the past 12 months more than 200,000 Cubans (or almost 2% of the population) have been stopped trying to enter the United States. Many younger artists have followed Mr Milanés to Spain, turning Madrid into a Cuban cultural capital in exile. "Where are the friends I had yesterday," Mr Milanés sang in "Éxodo" ("Exodus"), released in 2000. "What happened to them? Where did they go? How sad I am." Many Cubans would now say the same.

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tas detest, argued that if the electoral tribunal considered Mr Bolsonaro's claim, it would also have to investigate the results of the first round. This includes the vote for the lower house, in which Mr Bolsonaro's party won 99 seats out of 513.

Mr Bolsonaro's timing seems odd. Although immediately after the election there were large protests by his supporters, including lorry drivers who blocked roads, they were soon dispersed. The highway police—the head of which is being investigated for allegedly trying to interfere in the voting process in favour of Mr Bolsonaro—obeyed orders to shut down the lorry protests. But hundreds of *bolsonaristas* are still camping in front of army barracks in cities such as Brasília and São Paulo. They ask the armed forces to "save Brazil" by intervening and keeping Mr Bolsonaro in office.

Earlier this month the armed forces issued an ambivalent statement in which they "neither noted nor excluded the possibility of fraud". They had earlier taken part, at the electoral tribunal's invitation, in a check on the voting machines. Many military officers admire Mr Bolsonaro. But the high command stressed that controversies should be settled through the law.

Mr Bolsonaro is a fan of Donald Trump; one of his sons supported the storming of the US Capitol by Trumpists on January 6th 2021. It seems unlikely that Brazil will suffer a similar upheaval next month. Even so, Mr Bolsonaro has laid down a worrying marker, suggesting to his supporters that Lula, whom he has previously accused of working for the devil, is not a legitimate president. Mr Bolsonaro does not have the support for a full-blown coup, thinks Marcos Nobre, a political scientist. "He's trying to build strength for 2026," he says. ■



Diplomacy à la Modi

Indian realism

DELHI

A shifting balance of power obscures the continuity in India's global ambitions

When India formally takes the helm of the G20 on December 1st, it will do so as a prominent, sought-after actor on the world stage. Having refused to condemn Russia's invasion of Ukraine, it was praised this month for its contribution to a joint declaration of leaders in Bali that did so implicitly. It then helped create a fund at the UN climate talks in Egypt to compensate developing countries for climate-related damage (see next story). This week Jon Finer, America's deputy national security adviser, described India as "very high" on America's list of partners that "can truly help move forward a global agenda".

Supporters of Prime Minister Narendra Modi and his Bharatiya Janata Party often attribute India's growing stature to a more assertive foreign policy that dispenses with the deference and dithering which, they say, characterised the approach of previous governments. Mr Modi, a charismatic Hindu nationalist who claims to want to be the "world's guru", is said to epitomise that change. "In India's case, nationalism has in fact led to greater internationalism," said the foreign minister, Subrahmanyam Jaishankar, in a landmark speech on the evolution of Indian foreign policy. Yet setting aside its nationalist rhetoric, the Modi government's approach and objectives abroad are remarkably similar to its predecessors'.

Ever since India won independence in 1947 its foreign policy has prioritised developing its economy, defending its territory and maintaining influence and stability in its neighbourhood. And it has done so imbued with a profound fear of being dominated by a more powerful country as it was for so long. It was this sentiment that drove India and other newly independent countries to pursue their interests without joining either of the two Cold War blocs, in what became known as non-alignment. "We do not intend to be a plaything of others," declared Jawaharlal Nehru, who would become India's first prime minister.

Closening ties with America, which since the 1990s has viewed India as an important potential counterweight to China, are often said to have put paid to non-alignment. Indian officials in 2013 formally adopted a new guiding principle, strategic autonomy (without spelling out quite what had changed). In 2016 Mr Modi became the first Indian prime minister since 1979 not to attend the annual summit of the 120-country Non-Aligned Movement, which Nehru helped found. Under Mr Modi the closening with America has accelerated. India has expanded defence cooperation with it and sought more American investment. It has joined America, Japan and Australia in forming the Quad, a diplomatic network that seeks to promote, in tacit resistance to China's growing influence in the region, "a free and open Indo-Pacific". Mr Modi has described America and India as "natural allies", a heretical term for non-alignment traditionalists.

Yet that has not stopped his government maintaining all sorts of policies that America dislikes, especially concerning Russia, India's biggest arms supplier for decades. This was highlighted by India's 11 abstentions at the UN on motions to criticise Vladimir Putin's invasion of Ukraine. And also by the alacrity with which it has ▸▸

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been stocking up on cut-price Russian oil and fertiliser. Some Indian commentators say Mr Modi has reembraced non-alignment. Indeed the prime minister started attending the non-aligned movement's annual shindig again during the covid-19 pandemic. Perhaps America's failures against the virus, including its unwillingness to lift export controls on vaccines while covid-19 raged in India, made him re-evaluate his pro-Americanism?

In reality, India's commitment to non-alignment was never as pure as the traditionalists suppose. As needs arose, it has always got into bed with one power or another. During its border war with China in 1962 it turned to America for arms. After America grew close to Pakistan it veered so far towards the Soviet Union, whose ideology the Nehruvian elite adored, that non-alignment became a euphemism for anti-Americanism. India's ties to America are not markedly tighter now than its Soviet ties were then.

It relations with America might indeed be more opportunistic than its ties to the Soviets were, contrary to what some pro-India American policymakers believe. "India is today an aligned state—but based on issues," the then foreign secretary, Vijay Gokhale, said in 2019. Its accommodation with America, therefore, "is not ideological. That gives us the capacity...to maintain our decisional autonomy." Underlining the point, Mr Jaishankar has suggested that America's fading supremacy, of which its anxiety over China's rise and eager outreach to India are symptomatic, gives India both reason and opportunity to hedge its bets. "India needs to follow an approach of working with multiple partners on different agendas," he said. The country has pursued that course unusually vigorously under Mr Modi; hence, its recent hyperactivity in world affairs. But the approach is nonetheless squarely consistent with the realism and wariness of encumbrance that, setting aside its pro-Soviet blip, have always guided Indian foreign policy.

But if its policy has changed less than advertised, how it is received abroad has changed enormously. India's increased wealth and power mean that multiple partners are keen to work with it. This has helped Mr Modi look statesmanlike, guru-like even. And India's many suitors are willing to excuse whatever in its behaviour they dislike. That was long true of Russia's eagerness to sell India arms despite its friendliness with America. It is even more evident in the West's careful response to its equivocation over the war in Ukraine.

Early in the war America's State Department was reported to have recalled a stiffly-worded missive to its diplomats instructing them to buttonhole their Indian counterparts over the war. "We know India has a relationship with Russia that is distinct from the relationship that we have with Russia," the State Department's spokesman said. This American reluctance to criticise India presented Mr Modi with opportunities both to maintain economic ties to Russia, and to win praise for chiding it even slightly.

Thus the plaudits he won after his gnomic semi-rebuke to Mr Putin—"today's era is not an era of war"—was paraphrased in the Bali declaration. None of his predecessors would have been so praised for so pathetically little. No doubt Indian diplomacy has changed a bit over the past couple of decades. But the geopolitical context has changed more. ■

Climate diplomacy

Pakistan to the rescue

ISLAMABAD

A country not known for leadership at home provides some abroad

PAKISTAN IS NOT often praised for its leadership. Yet its climate change minister, Sherry Rehman, was one of the star turns at the UN climate talks held in Sharm el-Sheikh last week. At the helm of the "G77+China" negotiating group of developing countries, Ms Rehman won plaudits for shepherding a new deal to channel money from rich countries to poor ones that have suffered climate-related disasters. It was the annual climate jamboree's single main achievement.

Ms Rehman, a former journalist, information minister and ambassador to America, blends well-heeled glamour and toughness. A rare champion of Pakistani liberalism, the 61-year-old Karachiite is known for her fights against honour killings and the country's cruel blasphemy laws. They have earned her multiple death threats. She also bears scars from a suicide blast aimed at her friend Benazir Bhutto (the former prime minister survived that jihadist attack, but not one weeks later). By comparison, the talks in Sharm el-Sheikh must have seemed like the holiday camp that the Egyptian town usually is.

Reason for grievance
Pakistan, estimated loss in GDP from greenhouse-gas emissions by other countries
1990-2014, $bn, 2010 prices



Source: "National attribution of historical climate damages", by C. Callahan and J. Mankin, July 2022

Yet Ms Rehman was also assisted by the fact that the massive floods Pakistan suffered this year, costing an estimated $30bn in damages, are one of the biggest climate-related disasters on record. They gave moral authority to her argument that poor countries should receive "loss and damage" funds from the rich countries whose emissions have contributed to such calamities. A study attributes the engorged monsoon floods in part to global warming. Yet Pakistan is responsible for less than 1% of the stock of global emissions.

Pakistani environmental activists, a subset of the country's embattled liberal campaigners, hope Ms Rehman's triumph will stir more climate action back home. It had been modestly increasing before the floods—with, for example, a few cases in which activists sued the government for neglecting its environmental commitments. Yet Pakistan's climate change ministry is vastly underfunded. Just $43m were allocated to it this year from a federal budget of $47bn. A proposed national climate change authority has yet to be formed, five years after a law was passed to facilitate it. Pakistan, which experiences some of the hottest temperatures on Earth, has only just begun serious work on a national adaptation plan.

The floods helped publicise such shortcomings. Pakistan's few climate experts were suddenly hot property on the country's news channels. But will that focus be maintained? As the government scrambles to provide flood relief, it is giving little thought to climate-proofing against future disasters. Before the floods, Ms Rehman was pushing a $11bn-17bn initiative to regenerate the Indus river that supports the livelihoods, indirectly or directly, of over 200m people. But funds that might have been earmarked for the programme are now going on flood relief.

The heightened global attention she has brought to Pakistan's flood losses could attract a lot more money and relevant expertise. That could make the country a poster child not only for loss-and-damage activism but, more usefully, for long-term planning and climate resilience. There is a precedent for this. After a devastating cyclone in 1970 Bangladesh built one of the world's best disaster preparedness schemes. A tragic, likelier scenario would see the momentum generated by Pakistan's calamity and Ms Rehman's astute diplomacy lost in a protracted relief effort and Pakistan's usual obsessions with politics and scandal. At least, until the floodwaters rise again. ■

Political Malays

Anwar Ibrahim gets the prize

KUALA LUMPUR

An election designed to reduce political uncertainty adds to it

FOR SIX decades Malaysia was a rare monarchy in that its parliament was more stable than its palace. Each of the country's six prime ministers between 1957 and 2018 outlasted the king who had appointed him. That is because the country's throne is shared by nine regional monarchs, who take turns on it in rotating five-year stints. Yet the country's civilian leaders are now in even greater flux. The current king, Sultan Abdullah, has seen three prime ministers come and go since his coronation in 2019. As *The Economist* went to press on November 24th he seemed to have appointed a fourth: Anwar Ibrahim, a former deputy prime minister and longtime nearly man of Malaysian politics.

It was a messy business, Malaysian voters having on November 19th delivered the country's first-ever hung parliament. Mr Ibrahim's reform-minded Pakatan Harapan (PH) coalition won 81 seats. The Perikatan Nasional (PN) alliance of Muhyiddin Yassin won 73. With neither group close to a parliamentary majority, Mr Anwar and Mr Yassin both struggled to convince the king that they could nonetheless muster the support of the requisite 112 MPs. Thus, the elections completed a decade-long transformation of South-East Asia's third-biggest economy from a restless one-party state to a fractured political mess.

Backing from local parties on the island of Borneo initially looked to give the advantage to Mr Yassin, whose 17-month stint as prime minister ended unmourned in 2021. That, in an unsavoury twist, left the task of kingmaking to the United Malays National Organisation (UMNO).

It governed Malaysia from 1957 until 2018, yet won only 26 seats thanks to a horrific run of scandals. In August Najib Razak, a former UMNO prime minister, was jailed for 12 years on corruption charges related to a $4.5bn heist of public funds. The party's unpopular president, Ahmad Zahid Hamidi, is facing charges of corruption and money-laundering (which he denies). That Ismail Sabri Yaakob, UMNO's pliable current prime minister, nonetheless called the election early—allegedly at Mr Zahid's behest—was a further act of hubris from a party that has now emphatically lost Malaysians' trust.

Yet Mr Zahid, to the undoubted dismay of many voters, was still able to dictate the make-up of the country's next government. In a leaked letter, he informed the king that his party's coalition would support Mr Anwar, who was an UNMO minister in the 1990s before he suffered a bitter falling out with Malaysia's governing party. Yet the king reportedly also received declarations from a dozen UNMO MPs vowing to support Mr Muhyiddin. Several UNMO bigwigs meanwhile claimed that Mr Zahid no longer spoke for them and tried to oust him. As chaos descended, the governing council of UNMO's coalition declared that it would support no one.

That forced Sultan Abdullah to become more than a passive observer. He instructed UNMO and its allies to pick a side. He also urged Mr Anwar and Mr Muhyiddin, whose rival coalitions despise each other, to form a unity government if neither could make a majority. The parties duly bent to the royal will. UNMO announced it would support a unity government so long as Mr Muhyiddin's party did not lead it. In response Mr Muhyiddin's PN coalition said that it would "consider" supporting a unity government—apparently handing Mr Anwar the premiership that he had several times been denied during a four-decade-long career.

This amounts to a dazzling comeback. A former acolyte of Mahathir Mohamad, Malaysia's longest-serving leader, the 75-year-old Mr Anwar gained prominence leading Malaysia's response to the Asia financial crisis in 1997. He was expected to be Mr Mahathir's successor. Yet after falling out with his former mentor, and briefly campaigning against him, he was tried and convicted in 1999 of sodomy and corruption. The conviction was overturned five years later and he returned to the fray; only to be charged with sodomy and convicted again in 2014. And yet again he was freed and pitched back into politics, vowing to fight chauvinism and corruption. His rise to power, if confirmed, would be of the most dogged kind. He might consider it additionally sweetened by the fact that his sometime rival Mr Mahathir, aged 97 but still power-hungry, suffered an embarrassing defeat in the election.



Anwar at last

Whether Mr Anwar could fulfil his reformist promises is another matter. With economic gloom on the horizon, Malaysia's next leader will be under pressure to implement painful economic measures, including cuts to fuel subsidies. And yet the past four years have shown how inept Malaysia's government can be when its leaders are weak and scrapping for survival. That is why Malaysian voters demanded change. With or without Mr Anwar, they may not get it. ■

Japan's oddball populists

A storm in a satellite dish

TOKYO

Boring mainstream politicians are inspiring opportunists

A TREMBLING VOICE leaks from a white flip phone: "My father passed away and hadn't paid his NHK bill. What should I do?" Tachibana Takashi, a politician, advises the caller to ignore any requests from the national broadcaster's notoriously strict bill collectors. After dealing with the call, Mr Tachibana films a video excoriating the broadcaster for his YouTube channel. He concludes, as always, by holding up his fists and shouting his party's slogan: "NHK *wo bukkowasu*! (Destroy NHK!)"

His party, once known as the "Party to Protect the People from the NHK" (now simply the "NHK Party"), is one of several minnows with peculiar agendas to have entered national politics in recent years. Mr Tachibana, who founded the party in 2013, was elected to Japan's upper house in 2019. In July two other oddball campaigners replicated the feat. One is Higashitani Yoshikazu, known as "GaaSyy", a YouTuber and celebrity gossip. The other is Kamiya Sohei, whose right-wing Sansei-to party is anti-vax, anti-immigration and a firm advocate of organic vegetables.

Bashing public television may be the epitome of Japanese populism. "I've always hated NHK," says Kubota Manabu, an NHK Party supporter who helps people trying to dodge the broadcaster's bills. The country is fortunate to have such footling rabble-rousers. Yet their emergence is not improving the country's national conversation. During a recent televised debate, in which leaders of several political parties discussed weighty economic and security issues, the representative of the NHK Party, Kurokawa Atsuhiko, kept bursting into song. Ishiwata Tomohiro, a journalist who ▸▸

covers the NHK Party, describes Mr Tachibana's movement as a bunch of headline-grabbing opportunists. "All they want to do is to create their own little kingdom."

Japan has a history of such fringe groups. The New Party for Salary Men and the cultish Happiness Realisation Party are among several to have made it into the Diet before flaming out. Yet even if their success is fleeting, it offers a warning to the country's mainstream parties.

It is an indictment of how remote, opaque and mind-achingly dull they mostly are. Legislators often doze off during long-winded speeches in the Diet. This sets a low bar for insurgents. "All it takes to be popular is to be a little less boring," says Axel Klein, a political scientist at the University of Duisburg-Essen.

The contrast is especially striking on the campaign trail. The tactics of mainstream politicians, who tend to be old and grey, have hardly changed in decades. They generally drive around in a car with a loud speaker distributing pamphlets. Fringe parties make better use of social media. Amazingly, the NHK Party has four times as many subscribers on YouTube as the Liberal Democratic Party, which has ruled Japan almost without interruption since 1955.

That points to a more worrying trend. Japanese voters are deeply disaffected. Turnout in recent national elections has been around 50%. And the younger voters that fringe parties attract are most disillusioned of all. The LDP's share of voters aged 18-29 fell from 46% in 2017 to 32% at this year's upper house election. Unless the mainstream parties can reverse that trend, circus acts like the NHK party could turn out to be less an entertainment than an augury of more serious populism. ■

Banyan Lessons from the doghouse

Australia has stood up to Chinese bullying and thrived

It was the briefest of get-togethers, but when Xi Jinping met Anthony Albanese at the margins of the G20 gathering in Bali, it marked the first time China's paramount leader had met an Australian prime minister one-on-one since 2016. It also signalled the drawing of a line under two years of extreme Chinese bullying in which Australia was made the butt of the most punitive trade measures that China has launched against any country. In Bali, Mr Xi at least unlocked the doghouse and left the door open for the abused Aussie mutt.

Few in Canberra expect China to rush to lift its embargoes on $20bn-a-year's worth of Australian barley, beef, coal, lobster, wine and more. But bilateral communications, including military ones, may resume. That is a win. Australia and China are better off talking, said Mr Albanese—a line he has repeated often since coming to office at the head of a centre-left government in May.

For his part, Mr Xi said it was in both sides' "fundamental interest" to develop their relationship. How true; which was why China's descent into pique was so extraordinary. Only eight years ago Mr Xi addressed the Parliament in Canberra. A free-trade deal was signed. Mr Xi boasted of having visited every Australian state. Yet soon China was nurturing grievances over Australian actions, including speaking out on Chinese activities in Hong Kong, Xinjiang and the South China Sea and blocking China's Huawei from critical telecoms infrastructure. When Mr Albanese's conservative predecessor, Scott Morrison, called for an independent inquiry into the origins of covid-19, pesky little Australia was considered in Beijing to have offended the cosmic order. In November 2020, accompanying its import bans, China produced a list of 14 grievances and demanded that Australia "correct" its behaviour.

Mr Morrison ignored the demand, and took China to the WTO over its barley and wine bans. Yet now China has relented. This was consistent with Mr Xi's broader charm offensive in Bali. And no doubt the advent of Mr Albanese, a less abrasive prime minister, provided cover for the climbdown. At bottom, though, Australia's refusal to bend meant the Chinese approach was just not working. It is a lesson, says Malcolm Turnbull, Australia's prime minister from 2015 to 2018, universally applicable to victims of bullying: "Stand your ground."

Australia has done so and emerged stronger, though China is by far its most important trading partner. It helps that China still depends on Australian iron ore and gas. Indeed, the value of Australian exports to China is higher now than before the bans. At the same time, Australia has spread its export bets by seeking new markets. Once, 42% of its exports went to China, now less than 30% do.

Some have certainly suffered badly.



The incomes of Tasmanian fishermen have halved. About 1,000 wine businesses have gone under. But the government managed to persuade businesses that to give in to Chinese demands would mean the bully coming back for more. Most Australians approve of the government's approach.

Australia is now better informed about Chinese assertiveness and more united in guarding against it, perhaps especially in defence. Stabilising Australia's relationship with China, the defence minister, Richard Marles, said recently, "does not mean we won't also maintain a clear-eyed focus on our security."

Not all of Australia's experience applies to others facing a spell in the pound (Canada, Japan, Norway and South Korea have all been kennelled at one time or other). It is also too soon to declare this a definitive Australian win. China has not lifted its embargoes yet, and the security situation in Asia remains tense. Still, the Australian example does offer some important lessons.

Against Chinese coercion, assert international norms. And proceed calmly and consistently. Some of the Morrison government's anti-China grandstanding was pointlessly inflammatory and alarming to Australia's ethnic-Chinese citizens. Mr Albanese has been rewarded for his more temperate approach. It made China's obstreperousness seem all the more unreasonable. "If the other side seems more rushed than you, it's usually advantageous," says an Australian official.

Also, remember that trade dependency works both ways. When it comes to self-denying ordinances, China is no committed wearer of the hair-shirt. Before long, Australian lobster may well be back on Beijing's banqueting tables.



Climate-change negotiations

The road to co-operation

America and China are talking again about climate change

Consensus is rare in UN climate negotiations, but most parties agree on one point. China and America—the two biggest carbon emitters—must talk. So there was understandable relief when, midway through this year's conference in an Egyptian resort, the two countries agreed to resume a climate-change dialogue that had been frozen since August. Three days later America's climate envoy, John Kerry, invited his Chinese counterpart, Xie Zhenhua, to gatecrash a meeting with the European Union on methane, welcoming him on stage as "a friend of mine". The 70 or so ministers in the room burst into applause.

The climate dialogue's revival, agreed upon at a meeting in Bali on November 14th between President Joe Biden and his Chinese counterpart, Xi Jinping, came too late for their teams to issue a joint statement at the talks in Egypt, known as COP27. Nor did they have time to jointly engineer a more ambitious outcome. The UN conclave ended on November 20th with a deal to start a climate-compensation fund for poorer countries, but without big new commitments to curb global emissions.

Nonetheless, many participants hope that renewed co-operation between China and America will invigorate climate negotiations. There is little doubt that Mr Kerry and Mr Xie are personally committed to the cause (they seem genuinely close and were talking informally even before the Xi-Biden meeting). The question is whether they can now pick up where they left off in August and overcome fresh obstacles, including friction over Taiwan and new American restrictions on technology trade.

Not so long ago, when Barack Obama was America's president, climate change was a rare bright spot in China-America relations. Despite friction elsewhere, they worked closely on climate issues, signing several bilateral deals that paved the way in 2015 for the Paris agreement (in which most countries pledged to keep the rise in average global temperature to well below 2°C). Co-operation then stalled under President Donald Trump, a climate sceptic who launched a trade war with China.

President Biden has tried to revive climate collaboration, but a further worsening of bilateral relations has hampered progress. China and America reached a surprise agreement at last year's climate conference in Glasgow, committing themselves among other things to form a working group of officials and experts to discuss co-operation in more detail. But before it could hold its first meeting, China froze all high-level dialogue with America in response to a visit to Taiwan in August by Nancy Pelosi, the speaker of America's House of Representatives.

Whether the two sides will now revive that working group (which includes several subgroups covering areas such as coal, methane and forestry), or use a different format, remains unclear. "We are back at the table," Mr Kerry said on November 20th. He pledged they would build on commitments they made in Glasgow, such as those by China to reduce coal use, illegal deforestation and methane emissions. A State Department spokesperson says the two sides discussed plans to "meet in the coming months". America's account of the Xi-Biden encounter said they had agreed to "empower key senior officials" to co-operate on climate change. China's version said only that they had agreed to "jointly work for the success" of COP27. ▸▸

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Mr Xie said formal consultations would continue after COP27. But some observers think China will agree to more detailed talks only if it secures concessions in other areas during an expected visit to China in January by Antony Blinken, America's secretary of state. "Maintaining some ambiguity may be part of the intention," says Li Shuo of Greenpeace East Asia, an NGO.

Progress could be complicated by developments since August. With Republicans about to control the House, and a presidential poll due in 2024, Mr Biden could face more pressure at home to win concessions from China, especially since America will be expected to pay into the new "loss and damage" fund for poor countries. China, meanwhile, wants Mr. Biden to ease restrictions introduced in October on exports to China of semiconductor technology critical for making electric cars (among many other things). And if a new Republican speaker visits Taiwan, China may suspend the dialogue again.

One area where progress might be possible is methane, says Jennifer Turner of the Wilson Centre, an American think-tank. China's coal mines produce a lot of it. Cutting those emissions is less complex than curbing fossil-fuel use, as methane can be captured relatively cheaply and easily. That may explain Mr Xie's appearance at the COP27 event where America and the EU said more than 150 countries had signed a pledge to cut methane emissions by 30% by 2030. China was not among them, but Mr Xie said his government had drafted an action plan and would soon approve it.

There may be another reason for qualified optimism. As climate change becomes a bigger area of competition between China and America, both are channelling billions of dollars into developing green technology at home and financing green development abroad, especially in poorer countries. "This competitive environment could help countries who are able to articulate their needs," says Bernice Lee of Chatham House, a think-tank in London.

China is refocusing its global Belt and Road infrastructure programme on greener projects. In June America and other members of the G7 launched a rival scheme, the Partnership for Global Infrastructure and Investment. It aims to mobilise $600bn of investment in eco-friendly infrastructure in poorer countries by 2027. One project, unveiled on November 15th, is a $20bn package to help wean Indonesia off coal.

Co-operation between America and China would help drive down the cost of green technology by integrating supply chains, and allow more efficient financing of climate-related projects in developing countries. For now, though, climate competition—not co-operation—may offer a more realistic path for progress. ■

Pandemic controls

Covid confusion

BEIJING

China's response to a surge in covid-19 cases is muddled

At the end of the 19th century, bold officials and a young emperor tried to reform China's last imperial dynasty. They made sweeping changes in education, the armed forces and the economy to help the creaky Qing empire catch up with Japan and Western powers. They failed. The "hundred-day reforms", as they became known, were scrapped by the emperor's conservative aunt, the Empress Dowager.

China's recent attempts to ease its draconian "zero-covid" controls were so ill-fated that some have dubbed them the "seven-day reforms". They began on November 11th, when the government banned excessive mass testing, "arbitrary" lockdowns and other intrusive measures. Officials demanded more precise controls in order to limit the impact on people's lives and livelihoods. Shijiazhuang, a northern city of about 11m people, stopped requiring that those entering public venues show a recent negative test result for covid-19. Some other cities also relaxed controls and removed covid-testing booths. Financial markets perked up. Some analysts saw Shijiazhuang's approach as a possible precursor to a full opening of the country, following nearly three years of restrictions.

In theory the new guidelines are still in place. But on the ground little has changed. Shijiazhuang is now under lockdown, and is testing most of its population for the virus. Several cities have recently announced mass-testing campaigns, and have reopened testing booths. Some other cities are abiding by the letter of the new guidelines but not the spirit. Police have ordered bars in central Beijing to close, without any public notice being issued. In all, areas producing a fifth of China's GDP are now under some form of lockdown, reckons Nomura, a bank.

Under watch

China, covid-19 close contacts under medical observation*, 2022, m



*At home or in government facilities
Source: National Health Commission

The flip-flop is not surprising. There was already an uptick in covid cases when the easing was announced. It has since accelerated. On November 23rd China logged over 30,000 cases, the highest official record for a single day. And for the first time in six months, officials reported deaths from covid: several elderly people with pre-existing conditions.

More puzzling is why the central authorities felt they could ask local officials to ease restrictions while at the same time expecting them to keep cases down. These contradictory goals caused "chaos and confusion", says Huang Yanzhong of the Council on Foreign Relations, an American think-tank. It may also have contributed to the rise in cases.

Many Chinese are worried. "This world is inexplicably messed up and I don't know what to do," said a commenter on Weibo, a Twitter-like service. Some are terrified that the virus may run rampant. On November 22nd riots erupted in the central city of Zhengzhou at the world's biggest iPhone factory, partly over fears of infection. But others, sick of lockdowns, would prefer more easing. One widely shared article noted that World Cup fans in Qatar are not even wearing masks. "Do we live on a different planet?" it asked.

As cases rise, health officials are preparing for a big outbreak. On November 17th they announced plans to convert 10% of hospital beds into intensive-care unit (ICU) beds. They also promised to unveil a plan to increase vaccination rates among the elderly (just 40% of China's 80-plus group have had a third booster shot, which would substantially reduce the risk of severe disease or death). But such projects will take time and resources. Currently China has fewer than four ICU beds per 100,000 people. That compares with more than 30 per 100,000 in America.

China is still pursuing its strategy of isolating those infected and their close contacts. This is getting harder as cases rise. Over 1.3m people are under medical observation, far more than during previous outbreaks (see chart). Quarantine facilities are being built quickly but are coming under strain. More people are being asked to stay at home, to be monitored by exhausted community workers.

Mr Huang believes the next few weeks will be critical. China may manage to crush its outbreaks through its tried-and-tested method of long lockdowns and mass testing. But if cases rise too fast, attempts to isolate close contacts will fail and officials "may find the existing playbook no longer works", he says. Whatever happens, efforts to make life more comfortable while maintaining a zero-covid policy seem futile. ■



Controls on Catholics

Blessed are the meek

A campaign to "sinicise" Catholics is spreading to Hong Kong

When the Vatican signed a deal with China in 2018 on the appointment of bishops, the pact was denounced by a former leader of the Catholic church in Hong Kong, Cardinal Joseph Zen. He said it would legitimise the Communist Party's control over Chinese Catholics, and be like "giving the flock into the mouths of the wolves". The flock has not yet been devoured, but the grip of the government's jaw has been tightening. The authorities have accelerated a campaign to "sinicise" the church by making its buildings, art and rituals look more Chinese and, crucially, its followers more loyal to the party. Catholics in Hong Kong are in their sights, too.

China's leader, Xi Jinping, launched the campaign in 2015 with all of the country's officially recognised faiths in mind (there are four others: Buddhism, Islam, Protestantism and Taoism). The party has been particularly tough on Muslims, claiming that radical ideas from abroad are fomenting religious extremism and separatism among China's Muslim ethnic groups, especially the Uyghurs. The government has locked up many Uyghurs in "re-education" camps, removed Arab-looking domes and minarets from mosques and banned the use of Arabic script on buildings.

Pressure has also grown on China's 12m Catholics. In 2018 the Chinese Catholic Patriotic Association, which oversees the state-approved Catholic church, launched a "five-year work plan" to promote sinicisation. Like similar plans involving the other faiths, this one aims to ensure that the party's doctrine is given prominence. The clergy are required to attend study sessions to learn about the party's history and Mr Xi's ideology and accomplishments. Officials stress that this knowledge must be imparted to parishioners.

The Vatican hopes its pact with China will help unify the Chinese Catholic church, whose members have long been split between congregations that register with the authorities and submit to regulations and those that do not, which are commonly labelled "underground". But Cardinal Zen fears the agreement will simply help subject the unregistered churches to the same sort of interference seen in officially approved ones. The deal's contents remain secret, but they are said to allow the Chinese government to nominate bishops while giving the Vatican a veto.

China has been intensifying pressure on underground clergy to submit to government controls. Some objectors have reportedly been arrested. "The party goes around and tells underground priests: the pope has negotiated with us. They use the Vatican as an excuse to force underground priests to register," says a priest from Hong Kong. He calls the pact "a slap in the face of the persecuted".

Pope Francis insists the deal is "working well". In October he renewed it for a second time. Yet the actions of the Vatican's unofficial envoys in Hong Kong suggest they know that all is not well (the Vatican does not have formal diplomatic relations with China). Earlier this year their chief reportedly held private meetings with Catholic missionaries in the city to warn that mainland-style restrictions on religion were coming soon. The diplomats shipped to Rome half a tonne of archives containing details of missionary and underground activity on the mainland.

There are already signs that the sinicisation campaign is spreading into the territory, which has hundreds of thousands of Catholics. A year ago the office of the mainland government in Hong Kong organised an online meeting between Chinese bishops and Hong Kong's Catholic leaders. They discussed sinicisation but kept the meeting private. This month 50 scholars and clergy from all over China, including Hong Kong, held a conference on sinicising Catholicism. This one was publicly announced. At it the chairman of the mainland's Chinese Catholic Bishops' Council, Shen Bin, praised the party and its sinicisation efforts. Another participant, Cardinal John Tong Hon, a former bishop of Hong Kong, quoted Mr Xi as saying that Hong Kong's youth should "find a suitable path". That is a euphemism for avoiding protests.

Unlike on the mainland, where few people could name any Chinese Catholics, Hong Kong has several well-known ones. They include John Lee, the territory's chief executive, and two of his predecessors. But among its famous Catholics are also fierce critics of the party, such as Jimmy Lai, a publisher, and Martin Lee, a lawyer.

Mr Lee was given a suspended 11-month sentence last year for organising a pro-democracy protest. Mr Lai is in jail for similar offences. On November 25th a local court is expected to deliver a verdict in a case against Cardinal Zen: he has been accused of failing to register a fund to help pro-democracy protesters. Unlike many of those he supported, he is likely to get off with a fine. In 2021 mainland researchers published a "blue book" on the state of religion in Hong Kong and southern China. It concluded that a "radical minority" of Christians in Hong Kong backed the unrest that swept the territory in 2019 and should be removed from positions of influence.

Hong Kong's Catholic church has already begun to self-censor. In 2020 Cardinal Tong reportedly warned priests to avoid political sermons and removed from a statement a reference to an underground bishop. This year the diocese stopped holding its annual mass for victims of the massacre of demonstrators around Tiananmen Square in 1989. The priest from Hong Kong says churches there will remain open, but only meek believers will remain. ■

Chaguan | China's slowdown hurts the young

The woes of vocational-college graduates are revealing



China's economy is in grim shape. Much of the pain is being felt by the young. Unemployment among Chinese aged 16-24 is running at 18%. That number is an undercount: it misses rural youngsters and those out of work for more than three months. The crisis is hurting even relatively privileged youths, including nearly 3.5m who earned undergraduate university degrees this year.

Pandemic-induced lockdowns are hurting the whole economy. Some industries that formerly employed millions of graduates have shrunk, after Communist Party chiefs declared them threats to economic and social stability. Specifically, leaders squeezed giant property developers in the name of curbing debt-fuelled speculation. They slapped fines on internet companies deemed over-mighty. Almost overnight, they crushed an after-school tutoring industry accused of provoking cut-throat competition between families. Many youngsters are fleeing the business world for safer havens. Almost 2.6m signed up to sit national civil-service examinations, a big jump since last year. A still larger number have applied to pursue postgraduate studies. In the long term, the dashed ambitions of university graduates pose political risks. Middle-class parents, a vocal bunch, have grown used to the notion that their children will have bright prospects in a rising China. Less is heard about another group trying to enter the labour market: millions of students in vocational and technical colleges.

Vocational students might be thought well-equipped in this downturn. After all, they study real-world skills rather than abstract academic notions. China's manufacturing sector has fared better than many others during the pandemic, in part because of "closed-loop" policies, a euphemism for sealing workers in a factory and having them sleep on site, for weeks on end. Many manufacturing firms report that they lack skilled technicians and generally struggle to recruit young staff. The rural-to-urban migrant workers who built modern China (some of them the parents of today's vocational students) are ageing. In 2021 there were still 292m rural migrants who worked in cities far from home, but their average age had risen to nearly 42. The proportion of such people who are in their teens or their 20s has halved over the past decade or so.

Alas, many employers look down on vocational colleges. These institutions are at the end of an education track down which roughly 40% of pupils are sent. A big dividing point is the *zhongkao* exam. It sorts teenagers into two kinds of high school: academic for those with good grades, and vocational for the rest. Later, vocational colleges also take lots of academic high-schoolers who flunk the *gaokao*, a fearsome university entrance test. Despite attempts at reform, the vocational sector remains unloved and half-forgotten, though it teaches more youngsters than universities do. A new law declares vocational colleges to be as important as universities and calls on firms to play a big role in technical education. That is a bid to rebuild bridges with the working world that crumbled in the late 1990s when many state-owned firms went bust or were sold off, and stopped sponsoring vocational colleges. A veteran professor says China should learn from apprenticeships in places like Germany. He also growls that today's young "are afraid of hardship".

On a damp, grey autumn day, Chaguan travelled to Jiujiang, a port city on the Yangzi river in Jiangxi, a poor inland province. There he spoke to students from the Jiujiang Technical and Vocational College, founded in 1960 as a shipbuilding school. Some nodded to the happy theory that vocational colleges teach how things work in practice, while universities teach why things work in theory, making them complementary. Then they described hard-to-change social and even cultural forces that keep them down. A shipping student joked about Peking University, the country's most famous academy. "You know what they say, computer-science majors from Peking University can't fix a computer." In reality, she said, vocational degrees are not respected. "Even we think university is better than vocational school." Like several Jiujiang students, she was gloomy about using her studies to land a job. The shipping industry dislikes women, she said. Her own teachers warn of "flagrant" gender discrimination in hiring.

Families have different hopes for sons and daughters, suggested a teenage boy and girl eating lunch at a bustling restaurant. A son faces pressure to buy a home and support a family, so his salary matters, said the girl. A daughter may be pressed to seek a stable though low-paid job in her hometown, perhaps as a nurse or at a state-owned firm, so she can look after her parents. Asked why they both study information-technology hardware, the pair answered: "Because we didn't get good scores."

All about the grades

In China many students are assigned courses on the basis of exam grades. A 19-year-old learning to repair electric cars is one of them. He confessed that he dislikes the work, is confused about what job to do and mostly wants to live near his family. Other students reported widespread interest in taking the *zhuanshengben*, an exam that lets vocational students transfer to regular universities.

That exam's very existence undercuts official claims to treat vocational and academic studies as equal. Indeed, as the economy slows, Jiangxi's government has hugely increased its quota for students allowed to make vocational-to-university transfers. The province granted 2,770 students transfer places in 2019, before the pandemic. It is offering 42,000 places this year. As your columnist talked to students, a salesman from a private education company set up a roadside stall promoting weekend and night classes that prepare youngsters for the *zhuanshengben*. Vocational degrees are not worth much, ventured the salesman: just try applying to be a teacher or civil servant with one. Business is booming, he added. Jiujiang's vocational students are on the wrong end of an unequal, exam-obsessed system. In a bad economy, the gaps grow wider. ■



Iran

Turmoil at home, jitters abroad

Iran lashes out, but the regime looks weaker at home and abroad

In most revolutions there comes a point when the regime under threat moves from trying to control the crowd without spilling too much blood to sending in the army to crush the revolt. Iran may be nearing that point. Swathes of the country already look like a war zone. Armoured-car columns of the Islamic Revolutionary Guard Corps (IRGC), the regime's praetorian guard, roll into cities including Mahabad and Javanroud in Iran's Kurdish north-west, firing with machineguns on protesters. Helicopters fly overhead. Circling drones broadcast martial songs.

The death toll across the country is rising sharply. Iran Human Rights, a watchdog based in Norway, reckons its tally of 342 dead in the first two months has jumped to at least 416 in the past week. The true figure could be much higher, it says, because internet blockages have interrupted the flow of information.

Protesters are fighting back. "You can't ask a brutal dictator for your rights peacefully," says a Kurd, echoing the intensifying militancy. Street-fighting manuals have begun to circulate. There are increasing reports of security forces being stabbed and shot at. Supporters of the Kurdistan Free Life Party (PJAK), based in neighbouring Iraq, say they are smuggling weapons and protective gear across the mountains into Iran. Some 60 Iranian soldiers and police have been killed, according to Iran's state media and outside monitors.

While turmoil spreads at home, Iran's rulers are hitting back—and trying to stir up trouble—abroad. The IRGC is regularly firing missiles and drones at armed camps manned by Iranian exiles in Iraq's Kurdish north. Its commanders have threatened a ground invasion. They may be signalling to other governments in the region that, were the regime to totter, it could still lash out against its enemies across the Middle East.

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Visitors to Kurdistan say its leaders fear that their Western allies are too preoccupied with the economic crisis and the war in Ukraine to come to their rescue.

Elsewhere Iran is trying to show it can still make trouble for those who are taking cheer from its current discomfiture. It has hit an Israeli-owned tanker near the Strait of Hormuz. It has shipped parts for missiles to its Houthi allies in Yemen, who have previously struck the capitals of Saudi Arabia and the United Arab Emirates. The IRGC has posted a video showing how its drones could attack Saudi oil installations.

Iran has also brazenly announced that it is enriching uranium at close to weapons-grade and is spinning more advanced centrifuges. "The more the regime in Tehran is under pressure, the more it'll lash out," says Christian Koch of the Gulf Research Centre Foundation in Switzerland. "It will do whatever it takes. It's a survival game." Armageddon, some fear, could beckon.

Yet Iranians are also signalling to foreigners the benefits of keeping the regime on their side. The militias they have long sponsored in Iraq used to fire at the American "occupiers". But now that they are ensconced in the government in Baghdad, the militias are courting them. Iraq's new prime minister, Muhammad al-Sudani, is said to have had several productive meetings with the American ambassador.

Iran's proxy in Lebanon, Hizbullah, has also tacitly engaged with America, which recently mediated an agreement between Lebanon and Israel over their maritime ▸▸

border. "Iran is telling the Americans: don't miss the opportunity…to reach agreements you could never have dreamt of," says a former senior Iraqi official. Several of his colleagues think Iran is hoping that America's deteriorating relations with Saudi Arabia's de facto ruler, Prince Muhammad bin Salman, may make it more open to engaging with Iran.

Some hardliners in Iran's government, including Ali Shamkhani, the national-security chief, have sought to bring reformers back into government. Official media have been quoting Muhammad Khatami, the most moderate of past presidents, after censoring him for almost a decade. A few reformers have proposed a referendum on the future type of government. Others suggest snap elections. A number of analysts think the IRGC will waive some Islamist requirements, such as women having to wear the veil, as the price for staying in power. But protesters say the regime must go, hardliners and reformers alike.

Western governments are anyway unlikely to re-engage with Iran while turmoil rages within it. Technical differences between America and Europeans over nuclear negotiations have all but disappeared. Both have tired of Iran's foot-dragging and are angered by Iran's supply of drones to Russia for use in Ukraine.

Some also question whether Iran has the ability to make good on its threats to wreak havoc abroad. Since the assassination in 2020 of Qassim Suleimani, the powerful long-serving commander of the IRGC's foreign strike force, many of Iran's satellites have anyway concentrated on their own affairs rather than act as a cat's paw for Iran's ayatollahs. "Even if the regime recovers, [Ali] Khamenei is no longer the linchpin," says an Iranian analyst, referring to Iran's supreme leader.

Hizbullah, too, may be constrained by Lebanon's deal with Israel. Another Iranian protégé, Hamas, the Islamist Palestinian faction running the Gaza Strip, has been relatively quiescent. The IRGC is struggling to maintain its leading position in Syria, where it is often pummelled by Israel. Now that the fighting has subsided, Syria increasingly favours ties with Arab Gulf countries that have deeper pockets. Iran is also struggling to rouse its Shia brethren in Gulf states, such as Bahrain (see next article). To the IRGC's ire, they mutter against the normalisation of relations with Israel under the Abraham accords, but rarely take to the streets. "Shias no longer chant 'Death to America and Israel' in Friday prayers," says a Shia Bahraini politician.

In sum, Iran's ayatollahs are facing an increasingly daring enemy within. Yet their friends in the region are displaying a growing reluctance to come to their aid. The Iranian regime's struggle to survive may be becoming a lonely affair. ■

Bahrain

Sects in the city

MANAMA

Strife in Iran makes Bahrainis nervous, but also hopeful

For the first time since her childhood, Mariam recently went back to the shrine of Nabi Saleh, a tiny island off the shore of Bahrain's capital, Manama. She reverentially held green drapes over the tomb of the 14th-century holy man whose name was given to the island. She stopped near the spring where her family used to barbecue a sacrificial goat. She remembered tasting the sweet dates from the orchards and looked at the waves lapping the island where she once swam. So much had gone. The sea is sullied with sewage. The spring is a dry hole. A car park has replaced most of the orchard. And Sunni families, like hers, gave up visiting the shrine decades ago. "Why did we stop?" she asked the custodian of the shrine, a Shia. "We were together. It was such a beautiful age."

Since the Islamic revolution of 1979 that convulsed Iran and threatened the thrones of Sunni Arab monarchs across the Gulf, Bahrain has been on the fault line of the Sunni-Shia division. It is the only country in the six-member Gulf Co-operation Council where the indigenous majority is Shia; most of the people in the other five are staunchly Sunni. And it lies awkwardly squeezed between two large ideological foes, Iran and Saudi Arabia. After the ayatollahs took over Iran, Bahrain's two sects sought succour from those bigger brothers, sometimes accusing each other of unbelief. Narrow-minded Sunni clerics denounced shrines, like those of Nabi Saleh, as insults to monotheism.

Yet sectarian feeling may be softening. Saudi Arabia has muzzled its more extreme Islamists and embarked on a more secular drive. The United Arab Emirates, Bahrain's other big patron, has banned Sunni Islamist parties and encouraged other Gulf governments to follow suit. Sunni Islamist parties did badly in Bahrain's recent election to choose members of an assembly that advises the all-powerful monarch, Hamad al-Khalifa. Bahrain's Sunni clergy may be shedding their sectarianism too.

Younger Shias may want their own clergy to reciprocate. The cries of protesters seeking to topple the Shia theocracy in Iran are being heard in Bahrain. Some Bahraini Shias are annoyed by the support their theologians are giving to the Iranian ayatollahs. "It's hypocrisy," says a Shia activist. "They have slogans for human rights here, but they're very conservative and don't want women to have better chances." So Bahrain's Shia religious establishment is also under pressure to be more liberal and less in thrall to their counterparts in Iran.

Social harmony between Shias and Sunnis in Bahrain would be enhanced still more if the ruling family bestowed equal political rights on the Shia majority. The main Shia party, al-Wefaq, is banned, so the recent election took place without its participation. Moreover, the ruling family grants most of the top army and security posts to Sunnis. Radio and television are broadcast in a Sunni dialect. The Sunni version of Islam is the one taught in schools. The names of Shia villages are often erased from signposts; medieval Shia mosques are unmarked on maps.

Maryam wants Sunnis and Shias to worship together at the island shrine. That may not be to the taste of the Khalifas. If the sects co-operated in politics as well as in religion, the people of Bahrain would find it easier to hold their ruling family to account. They might even demand a constitutional monarchy. The recent election is a long way from allowing that. ■



Yearning for the more tolerant days of old

Football in Africa

Kicking ahead

DENI BIRAM NDAO

A Senegalese academy shows how African football is changing

"ALL OF SENEGAL wants to come here," smiles Bassouaré Diaby, the head trainer at Génération Foot, a football academy a few hours out of Dakar, the capital. It is easy to see why. Three verdant training pitches abut a small stadium complete with corporate boxes, a video-analysis suite and a briefing room for press conferences. Players as young as 12 live on the site, which also has a gym, a lycée to make sure aspiring footballers complete their schooling, and a barbershop. The players should all "be well groomed and in the same way", says Talla Fall, who shows your football-mad correspondent around. "That's part of discipline," he says, adding: "We have put in place everything to give the boys the best chance to perform."

It is working. More than 15 current players, who joined the academy after extensive scouting and trials, represent Senegal in youth teams. This year Senegal's national team, the Teranga Lions, won the Africa Cup of Nations for the first time thanks to a penalty kick from Sadio Mané, Senegal's global superstar, who was trained at Génération Foot. That prompted a joyous countrywide street party featuring lamp-post-climbing and flame-throwing.

Three players trained at Génération Foot were named in Senegal's World Cup squad, including Mr Mané, who was recently voted the second-best player in the world. Alas, Mr Mané was crocked just before the World Cup, sending Senegal into a period of anxious prayer. On November 21st the national team lost its first game to the Netherlands, which sits ten places above Senegal in the rankings of FIFA, world football's governing body.

African football is changing. For the first time all the coaches of the African teams at the World Cup are African. Women's football is on the rise after the biggest-ever women's Africa Cup of Nations this year. And African academies like Génération Foot and Diambars, which has trained a host of players in the Teranga Lions, are better than many before them.

Previously, many academies would be no more than "a small house next to a pitch", says Mr Fall. Others were like failed aid projects. In 2010 Craig Bellamy, a former striker for Wales and Liverpool, set up a academy in Sierra Leone. But it was marred by poor book-keeping and affected by Ebola. As Mr Bellamy's income as a footballer dried up, so did the funds for the academy. It closed its doors in 2016.

Génération Foot, by contrast, has been running successfully since 2000. One reason for its strength is connections with FC Metz, a club in the French second division, which partly funds the academy and gets first pick of its talent. It usually takes two players a year to play in France. That was Mr Mané's path. If those players are then sold on to bigger clubs, as Mr Mané was, Génération Foot gets a share of the profits. Other successful African academies often have links to European clubs or backing from big business. One, Brasseries Football School in Cameroon, is backed by Castel, a French drinks firm.

Yet even at Génération Foot Mr Diaby, who was preparing to jet out to Qatar to help scout the opposition for the Teranga Lions, sees room for improvement. The gap with the best European academies has shrunk but not disappeared: nine of Senegal's squad of 26 for the World Cup are of Senegalese heritage but were born and largely trained in France.

Another problem is that there are not enough high-quality facilities to turn the country's vast pool of talent into world-class players. Right outside Génération Foot's compound, local youngsters play on a sloping and sandy pitch with rickety goalposts. "Senegal is a football country," says Mr Diaby. "From a young age everyone plays." Every year more than 1,000 local teams compete in the Nawetaan, a popular national championship for neighbourhood teams. Yet there are only two top-level academies. "If Senegal had six or seven academies," says Mr Diaby wistfully, "the results would be much better." ■

The World Cup

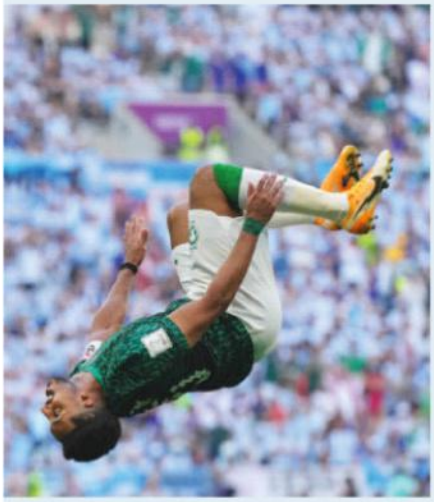
Politics by other means

DUBAI

For the Middle East, the World Cup is full of political symbols

LAST MONTH Muhammad bin Salman, the Saudi crown prince, summoned the national football team for an odd pep talk: no one expects much from you. The Green Falcons have not advanced beyond the group stage since 1994. Prince Muhammad told the squad to "play without pressure". But they played with passion. On November 22nd the Saudis beat Argentina 2-1, among the greatest upsets in World Cup history. Saudi fans reacted as if they had won the finals. One tore the door off his home in joy. King Salman announced a national holiday.

This year's World Cup, in Qatar, is the first to be held in the Middle East, a football-mad region where its teams are global underdogs and where local rivalries too often play out on battlefields. At least for a moment, the tournament has brought a dollop of goodwill.



Upside-down diplomacy

Arabs everywhere celebrated the win over Argentina, from Cairo to Fallujah in Iraq. Even the Houthis, the Shia rebels in Yemen who have long fought against a Saudi-led coalition, cheered.

When the matches began on November 20th, Prince Muhammad was meant to be in Japan. But he abruptly cancelled the trip and flew to Doha, Qatar's capital, to attend the opening ceremony. Five years ago Saudi Arabia led a quartet of Arab countries that blockaded Qatar, long the Gulf's *bête noire*. That seemed forgotten as Prince Muhammad sat smiling in the ruler's box, close to the emir, Tamim al-Thani, who returned the gesture: during the Saudi-Argentina match he draped a Saudi flag around his neck.

A day earlier Iran had faced off against England. When Iran's national anthem was played in the stadium the players stood silently rather than sing, a gesture of support for months of protests at home. In the cauldron of today's Iran, even that proved divisive. Some thought it brave, others saw it as too mild a gesture and chanted insults at the players.

Fans are fickle, monarchs mercurial. Euphoria over Saudi Arabia's win will not end the war in Yemen, nor will silence during Iran's anthem topple a rotten regime. The bonhomie between crown prince and emir could end as abruptly as it began. But the fact that gestures matter so much in the Middle East is a reminder of how deep the region's divisions run.

West Africa

Chocolate wars

TAFISSOU, ZAMBAKRO AND ABIDJAN

A cocoa cartel will do little to help the rural poor

Big commodity buyers do not usually pay their suppliers to produce something that they will never buy. Yet Nestlé, one of the world's biggest chocolate-makers, is paying 10,000 cocoa farmers in Ivory Coast to do exactly that. Among them is Tanoh Kouadio, a 45-year-old cocoa farmer whom Nestlé will pay about 67,000 west African francs ($106) to raise chickens.

Eating chocolate is one of life's greatest pleasures. Selling it can be rather profitable. Alas, growing the beans that go into it is neither particularly profitable nor pleasurable. Most cocoa farmers are poor; many of those who work for them are children. The reason that Nestlé is moonlighting as a pro-poultry NGO is because it worries its customers may see chocolate as a guilty pleasure in more ways than one.

Cocoa farmers' woes are painfully clear in Ivory Coast, the world's biggest producer. The country has roughly 1m cocoa farmers, who support about 5m people, or one-fifth of the population. More than half of Ivorian cocoa farmers and their families subsist on less than $1.20 a day. In Ivory Coast and Ghana, which between them grow about 60% of the world's cocoa, some 1.5m children do dangerous work in cocoa-growing areas. Many of Ivory Coast's forests have been destroyed to make way for cocoa trees (see map).

Bars on chocolate

In 2018 Ivory Coast and Ghana agreed to set up a cartel, dubbed COPEC after the Organisation of the Petroleum Exporting Countries (OPEC), in a bid to push up prices. They later demanded that buyers pay a premium of $400 a tonne over the going rate (about 16% at current prices). They recently turned up the heat, saying that unless buyers began paying the higher price by November 20th, they would halt the sustainability programmes that chocolate companies run. They hope this will shame the firms in the eyes of their consumers.

This is not the first time cocoa-producers have banded together. Attempts to form cartels and other price schemes began as early as 1945. Not one has worked. COPEC's recent effort is true to form. When it was first announced most big chocolate outfits, including Mars, Hershey and Mondelez (which owns Cadbury and Toblerone), loudly praised the plan.

However, most big firms have subverted its spirit by paying the COPEC premium while also trimming a separate payment. This is known as the country or "origin" premium that goes to Ivory Coast and Ghana, ostensibly to reward their growers for reliability and quality. These cuts have largely cancelled out the feel-good COPEC premium. "They say, yes, they will pay," fumes Yves Brahima Koné, the head of the Coffee and Cocoa Council (CCC), the Ivorian regulator. "But they don't tell the truth."

Ivory Coast and Ghana hope that by enlisting other producers they will get more sway over the market. Nigeria and Cameroon are talking of joining COPEC, which would raise its share of production to 75%.

Yet even if this time is different and COPEC manages to push up prices, it could struggle to sustain them. Higher prices would probably encourage more farmers to plant cocoa, further oversupplying the market. Even firms buying fair-trade cocoa at higher prices have had to stop taking on new farmers because demand for these pricier beans has lagged behind supply.

Chocolate is not like oil, and not just in the sense that it tastes nicer. Saudi Arabia, the world's swing producer of oil, can simply turn off the taps if it wants higher prices. Oil can remain underground, and does not rot. Cocoa trees, by contrast, cannot be turned off. If COPEC governments try to squeeze the market by banning exports, they will probably still have to keep buying and stockpiling beans to keep their farmers happy. Doing so could quickly overwhelm their budgets.

As it is, cocoa prices are weak because there is an abundant supply. And cocoa buyers have proved adept at sidestepping the new cartel by buying beans elsewhere or running down their own stocks, according to the International Cocoa Organisation, an intergovernmental outfit. As a result, last year Ivory Coast sold its cocoa at a heavy discount. Ivorian civil-society groups say big chocolate "made the Ivorian government bend".

Big chocolate and cocoa processors pay lip service to the premium, but prefer to publicise their own charitable programmes to help farmers. Nestlé's programme, one of many, pays farmers like Mr Kouadio not only for diversifying but also for three other worthy activities, including pruning to improve cocoa yields and sending their kids to school.



Source: Hansen/UMD/Google/USGS/NASA

Making the bitter sweet

Such programmes make for good press releases, but do not get to grips with the scale of the problem. Nestlé's project has 10,000 farmers and it plans to expand to 160,000 globally by 2030. Yet Alex Assanvo, the head of COPEC's secretariat, claims such programmes reach a mere 15% of its farmers. (Other estimates are higher.) "Sustainability programmes cannot be the answer," says Francesca Di Mauro, the European Union ambassador in Ivory Coast, "they're welcome, but they're not systemic."

The grim truth is that small farmers will never grow rich selling unprocessed beans. In most countries where rural folk have dramatically improved their lives, they have done so by moving to cities and finding better-paid jobs there. Encouraging them to remain in the countryside and grow more cocoa than people want to eat is an unlikely path to prosperity.

Ivory Coast is hoping to move up the chocolate value chain. It is now one of the world's two largest cocoa grinders (the other is the Netherlands). Yet grinding adds only a little of the value in a bar of chocolate. And in any case, there is little reason to think that because the country is good for growing cocoa it is also going to be better at making chocolate than, say, Belgium (which grows none). In focusing so doggedly on cocoa, Ivorians may be overlooking other industries where its firms and people might be more competitive.

Farms can generate wealth, but they typically do so by becoming bigger, more efficient and more mechanised. This means having fewer farmers. Mr Koné of the Ivorian regulator thinks this is a bad idea. "We must not change our economic model," he insists.

After meetings this week, Mr Assanvo of COPEC is claiming victory, mostly. He says the companies have agreed to pay the premium properly, at least until an expert group on pricing reports early next year. This looks like a rather unappetising fudge with a short shelf-life that will do little to eliminate poverty—or end the long-running chocolate wars. ■



Russia

The second front

How "offshore journalists" challenge Vladimir Putin's lies

THE KREMLIN banned them, branded them "foreign agents", criminalised them and chased them out of the country. It cut off their finances and tried to isolate them from their audiences. But they have regrouped, rebuilt and come back stronger. Never in the past 30 years have Russian journalists been under such assault, and never have they fought back with such vigour, calling out the Kremlin's lies, exposing its corruption and unearthing evidence of its war crimes.

Vladimir Putin's dictatorship does not leave much scope for street protests, but independent reporters have formed a virtual resistance movement, lobbing explosive stories at his war machine and supplying news and opinions to those who look for them. Most are doing so from outside Russia, something they call "offshore journalism". At least 500 journalists have left Russia since the invasion, according to Proekt Media, an investigative outlet.

Scattered across Europe, in cities such as Riga, Tbilisi, Vilnius, Berlin and Amsterdam, such journalists reach a large audience, most of them under the age of 40. "Our job today is to survive and not let our readers suffocate," says Ivan Kolpakov, the editor-in-chief of Meduza, a news website.

Meduza has reported on the massacre of Ukrainian civilians in Bucha, and the extraordinary number of convicts being pressed to join Wagner, a mercenary group run by a crony of Mr Putin. Mediazona, an online outlet founded by two members of Pussy Riot, a punk band, is trying to count the true number of Russian casualties. It has also found an ingenious way to work out how many Russians have been conscripted, by analysing open-source data on the unusually high number of marriages since mobilisation began. (Draftees are allowed to register their marriage on the same day as they are enlisted, and often do, since they don't know when they will see their partners again.) Mediazona estimates that half a million people have already been drafted—far more than the 300,000 the Kremlin said would be.

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For the Kremlin, suppressing real news is an important part of its war effort. Some outlets remain in Russia that are not propaganda organs, such as *Kommersant*, a private newspaper. But they are highly constrained—they cannot call the war a war, for example. Since Mr Putin invaded Ukraine he has muzzled most independent voices, lest they sow doubt among citizens or induce a split within the elite.

TV Rain, Russia's best known independent television channel, went dark eight days after the war started. Echo of Moscow, a radio station with 5m listeners, went silent on the same day. Soon after that *Novaya Gazeta*, the most outspoken newspaper, stopped printing. Alexei Venediktov, the editor of Echo, and Dmitry Muratov, the Nobel prize-winning editor of *Novaya Gazeta*, stayed in Russia while some of their former colleagues set up operations offshore. TV Rain is back on air, now based in Latvia and broadcasting via YouTube to 20m viewers a month, most of them inside Russia. Echo is in Berlin, streaming news and talk shows live via a new smartphone app, which the Kremlin tried but failed to block, and on YouTube.

A dozen new digital outlets, most of them set up since Mr Putin first started ▸▸

grabbing chunks of Ukraine in 2014, are publishing investigative journalism. A recent probe by Insider, an online outlet, working with Bellingcat, an open-source intelligence group, unmasked dozens of engineers and programmers who have been directing Russian missile strikes on Ukrainian cities. "Investigative journalism, which is declining in many countries, is flourishing in Russia," says Roman Dobrokhotov, who runs Insider. "There is plenty of demand for it, there are people who know how to do it and there is no shortage of subjects to investigate."

Russians find real news via apps and virtual private network (VPN) services, which can help them bypass censorship. Before the war Russia was the 40th-largest user of VPNs; now it is the largest in the world. Nearly half of young Russians use one, according to GWI, a market-research firm. Most of the users are well-educated urbanites. But even in rural areas, a fifth of people use VPNs.

Remote working during covid was a good preparation for offshore journalism. "I am physically located in Berlin, but I live in the Russian information field," says Maxim Kurnikov, the editor of Echo. Many of its talk-show guests and even some of his co-hosts are still in Russia. Finding the right tone so as not to alienate listeners is hard, says Tikhon Dziadko, the editor-in-chief of Rain TV. "We need to give voice to the people who cannot speak freely in Russia—not to blame or hector them."

Money is a problem for offshore outlets. No Russian firm would dare advertise with them. And wary of sanctions and public opinion, YouTube bars the monetisation of content in Russia. Even raising cash via crowdfunding and subscriptions is hard, since Visa and MasterCard block Russian transactions outside Russia. So offshore Russian media look for grants from foreign charities.

Getting news from inside Russia is often hazardous. Sources are terrified. "You have to be extremely resourceful and fit to survive...You either die or you get stronger," says Mr Dobrokhotov of Insider, who has many anonymous sources in Russia.

Offshore journalists always have an eye on Russia's political future. Russia has a long tradition of influential exiles: Vladimir Lenin once edited a paper called *Iskra* (the Spark) from London. In the late 1980s journalists helped Mikhail Gorbachev come up with his ideas for *perestroika* (reform). If and when Mr Putin wobbles, exiled scribblers will have ideas for how Russia might recover from his misrule.

Many of these journalists, such as Mr Dobrokhotov, were previously also political activists. Some now help people they write about. Ilya Krasilshchik, for example, a former editor of Meduza, has started Helpdesk Media, a cross-over between a helpline for people affected by war, whether in Ukraine, in Russia or in exile, and a way to record their stories. It is staffed both by Russians and by Ukrainians. ■

Ukraine

And the band played on

KYIV

Trying to live as normal is an act of defiance

SATURDAY NIGHT in Kyiv, and the streets are dark and snowy. After several waves of missile attacks on the electrical infrastructure of Ukraine over the past month, power is rationed and whole blocks are in blackout. In a hip former industrial area full of restaurants and bars, partygoers gather at the entrance to an underground club to be checked by bouncers. The dress code being enforced is "Dress to Impress". It's 6:30 in the evening. Nightclubs start early in wartime; curfew is at 11pm. Thigh-high pink boots and a silver mini dress are hidden beneath a puffy coat against the cold. Downstairs in a vaulted basement, the crowd pulses, wreathed in smoke and lit with blue and magenta strobe lighting.

"At first I was a bit worried about partying," says Vlad Putistin, the DJ for the evening. "Is it the right thing to do? But it's my job. I need to make money; I need to continue living." Not long ago a partygoer thanked him for a great set. It turned out to be a soldier, on leave from the front, grateful for a good time. '"I didn't know what to say," said Vlad. "I told him, thank you."

Everyone knows it will be a difficult winter. Power cuts are planned in every region; temperatures can fall to -20°C (-4°F). Ukrainian defiance has both moral overtones (to carry on as normal is to raise a middle finger to Vladimir Putin) and economic ones (a beleaguered nation needs to keep working to keep eating).

Over the summer, away from the front lines, life had begun to return to normal. The mayor of Kyiv's office has estimated from mobile-phone traffic that the population has fallen from a pre-war 3.7m to 3m, of whom roughly 400,000 were displaced


A message to you, Putin

from other areas. "In September, in general we had a rather positive picture," says Hlib Vyshlinsky, head of the Centre of Economic Strategy. Some clothing retailers in Kyiv's malls, he says, even reported sales higher than in September last year, probably as a result of pent-up demand over the initial weeks of the war, when almost all shops were closed.

But times are now tough. According to figures released at the end of October, Ukraine's economy is predicted to shrink by almost 32% this year. Inflation will accelerate to 30%, largely because war has fouled up logistics and the currency, the hryvnia, was devalued in the summer. Unemployment is probably between 20% and 30%, though government data collection is much less thorough these days and economic indices can be "philosophical", says Mr Vyshlinsky.

After the first big missile strike targeting electrical infrastructure on October 10th, businesses began to adapt quickly. The streets now hum to the chug of private generators. "Everyone doing business in Ukraine got used to the idea that every day can be different from the previous one," says Ievgen Klopotenko, a chef with well-regarded modern Ukrainian restaurants in Kyiv and Lviv, in the west of the country. His restaurant in Kyiv had already secured generators and a biological toilet before the power cuts. Now it stocks water in plastic barrels and a large supply of candles. In his restaurant in Lviv there is no space for a generator, so when the power is off he changes the menu, offering cold dishes, sandwiches or salads, and borscht kept warm in thermoses.

Dentists schedule visits according to the ever-varying electricity timetable. Cafés that cannot use their electric espresso machines switch to filter coffee, made with water boiled on gas stoves. Business own-

ers say they are stockpiling supplies in their offices: sleeping bags, pumps to keep waste systems going, food and petrol. During the pandemic people got used to having a "home office". Mr Vyshlinsky jokes that now, when they commute to offices so they can work somewhere warm and electrified, they call it "office home".

He reckons that power from his generator is about three times costlier than mains electricity. Only some businesses can afford that. Some boast of their generators to woo customers. Many IT workers are these days using co-working spaces which have invested in generators and tout for business on ads in bus stops.

Some companies say they are doing better than they were before the war. Mr Klopotenko, the chef, says his revenues are up, in part because people are "looking to discover their Ukrainian roots. It's a kind of society rebuilding, and my restaurant is a place where you can touch the roots of Ukrainian cuisine." Anecdotes suggest that the supermarket brands and petrol-station chains that stayed open throughout the battle for Kyiv continue to provide services even where it is risky and unprofitable, and have earned respect and won loyal customers. But many Ukrainians now seem to be inclined to shun brands whose owners fled abroad or which were seen to have shuttered or profiteered.

Last week attacks destroyed more electrical and gas infrastructure. On November 23rd another wave of missiles blacked out most of Kyiv and several other cities. Water, too, was cut off in the capital. The power cuts will get longer. Inevitably it is harder to recover after each wave of destruction. But customers, Mr Klopotenko says, remain understanding. In his restaurant recently when the air-raid siren sounded, people stayed at their tables rather than heading to shelters. "People want to sit and eat," he said. "Before, cafés and restaurants were entertainment. Now they are the memory of a good life." ■

Germany

The Pope's nein

BERLIN

Reformist Catholic bishops get a dusty response from the Vatican

A WHILE AGO, when a disgruntled Catholic priest in Germany clashed with the pope in Rome, the result was a bloody schism that five centuries later still divides Christians. Current rumblings between German Catholics and the Vatican sound less ominous. Yet the thing that most bothered Martin Luther, the sale of "indulgences" to wash away sins, was arguably no bigger a scandal than the exposure of priestly sexual abuse that has racked the Catholic church in recent years.

As in the 16th century, anger with the priesthood has prompted introspection and calls for reform. These happen to be particularly noisy among German Catholics, who account for around half the country's Christians (who in turn make up half of Germany's population). Demand for changes such as letting women be priests, allowing the blessing of gay marriages and revising teachings on sexuality has grown so strong that much of Germany's Catholic clergy now supports them. This includes a majority of the country's bishops, 62 of whom travelled to Rome in mid-November for a five-yearly visit to the Holy See.

Given that the number of German faithful is shrinking fast—a fifth of members have left the church since 2000—the bishops' worry is understandable. Yet their pleas in Rome seem to have fallen on deaf ears. Just before their visit, Pope Francis publicly quipped that having one Protestant church in Germany was quite enough. He then snubbed the German delegation, attending only one of two scheduled meetings.

Speaking at the end of their visit, Georg Bätzing, bishop of Limburg and the head of the German Bishops' Conference, described their talks with Vatican officials as "tough but civil". He pledged that the German church would not go its own way, but also warned that it "wants to and must provide answers to the questions being asked by the faithful". Back home, the German church fired what might be a warning shot, adopting a labour code for its own employees that is more accepting of divorced women and gay men, among other groups.

Partly due to tax rules that see the state collect tithes for both Protestant and Catholic churches, the German branches of both are unusually rich. The 8-9% of their income tax that German Catholics automatically give to the church brought in an estimated €6.7bn ($7.0bn) in 2021. This is more than six times what Italians donate yearly to the church, reckons Carsten Frerk, author of two books on church finances in Germany. Little of the German church's riches goes directly to the Vatican, he says, but a large part of the money is used to subsidise church activities worldwide. Pope Francis will not want to lose that.

Hungary's EU funds

First reforms, then cash

Europe tries a new tool against corruption

THE EUROPEAN UNION has struggled for years to cope with corruption in Hungary, where the ruling party has packed the courts, and state contracts tend to go to friends of Viktor Orban, the prime minister. It now looks to be getting serious. Since last year the bloc has two powerful new tools. The first is its €750bn ($750bn) covid-recovery fund, which requires each country's spending plan to be certified by the European Commission. The second is a "conditionality mechanism" which lets it block EU aid and demand reforms.

Mr Orban usually denounces EU complaints as meddling by Brussels bureaucrats. But with billions of euros in the balance, Hungary suddenly became interested in co-operating. In August it proposed 17 reforms to comply with the conditionality mechanism. Nevertheless, in September the EU's budget commissioner recommended that €7.5bn in aid be withheld until Hungary shows progress. Its €7.2bn request for covid-recovery grants has yet to be signed off. If it is not approved by the end of 2022, Hungary will lose 70% of that money. Both the plan and the conditionality-mechanism reforms will come up for a vote at a meeting of EU finance ministers (Ecofin) in December.

Hungary desperately needs the money. The forint has fallen by 24% against the euro since 2018. Inflation stands at 21%; worse, core inflation (apart from fuel and food) has hit 22%. The government has re-



Brother, can you spare a dime?

sorted to freezing the prices of potatoes, eggs and fuel, leading to shortages. It is also capping the interest rate on deposits, to force depositors to buy the bonds it needs to finance its fiscal deficit of around 6% of GDP. With debt at over 75% of GDP, the government will need its transfers from the EU to avert the worst when, as is likely, the economy goes into recession.

Rule-of-law experts say the proposed reforms are full of holes. The government has set up a new body to monitor EU funds, but most of its members are close to the ruling party, Fidesz. Citizens will be able to appeal if prosecutors drop a corruption case, but they rarely bring such cases in the first place. The judges with whom Fidesz has stuffed the supreme court will remain there. The court's president, nominated and approved by Fidesz, controls which judges get which cases, so government officials generally get a friendly hearing. Moritz Körner, a German MEP who serves as one of the European Parliament's rapporteurs on the issue, said letting the money flow could "irreversibly turn Hungary into a swamp of corruption".

Hungary's government retorts that the European Parliament "has been taken hostage by loud and aggressive far-left activists". Meanwhile it is blocking the EU's request to borrow €18bn to help Ukraine, which all member states must approve. The Hungarians say they oppose such loans because they haven't received any themselves: the recovery fund involves joint borrowing, but "we have not seen a single penny."

They may have to wait some time. Next week the commission is expected to tell Ecofin that Hungary has not met its terms. It will recommend freezing the €7.5bn under the conditionality mechanism, and approving the recovery funding only conditionally, with 27 milestones to meet before the cash can flow. Yet European leaders may soften these terms: they get the final vote at a summit on December 19th. ■

France and America

Mr Macron goes to Washington

PARIS AND WASHINGTON, DC

The oldest allies confront new problems

In 1960, at the height of the cold war, Charles de Gaulle made a speech before the American Congress that won him a standing ovation. "Nothing counts more for France", declared the general, "than the wisdom, resolution and friendship of the great people of the United States."

On November 29th today's French president, Emmanuel Macron, arrives in America for his own state visit, and will doubtless echo de Gaulle's warm words. France and America, with their shared revolutionary history, like to say that they are each other's oldest ally. They also share decades of prickly relations that they must manage at a time of war in Ukraine and broader geopolitical change.

For Mr Macron the trip is an unusual favour. It is the first full state visit that President Joe Biden has hosted. His guest will become the only French president under the Fifth Republic, founded by de Gaulle in 1958, to have been treated to two state visits to America (Mr Macron made his first in 2018, when Donald Trump was his host).

Barely a year ago France was reeling from the unveiling of AUKUS, a military technology-sharing arrangement between America, Britain and Australia which torpedoed an existing French submarine contract and undermined France's Indo-Pacific strategy. It is a measure of how hard America has worked to patch up relations that Mr Macron is being honoured with a four-day visit, complete with a state banquet at the White House. American officials speak of "exceptional co-operation" on all big geopolitical issues. "This is a celebration of the fact that this relationship is on a very strong footing," says one.

America's priority is to keep Europe united over Ukraine. Now that Ukraine has pushed Russian forces out of Kherson, the allies will want to calibrate their assistance so as to help Ukraine gain ground, avoid escalation with Russia and discuss future diplomacy to end the war.



Bidden to Biden

Just as important, America wants European support in its effort to constrain China in the Indo-Pacific region, not least because France has territories in both the Indian and Pacific oceans. "If you're going to deal with Russia and China at the same time as adversaries, you need Europe in general and France in particular. You need France's strategic clarity," says Daniel Fried of the Atlantic Council in Washington.

Britain may be strategically closer to America, and Germany stronger economically. But post-Brexit, France is the EU's military heavyweight. To some, Mr Macron is the "dean" of allies. France can be a headstrong partner, which treasures its independence and irks its allies. Yet its global reach and expeditionary military culture make it a useful interlocutor.

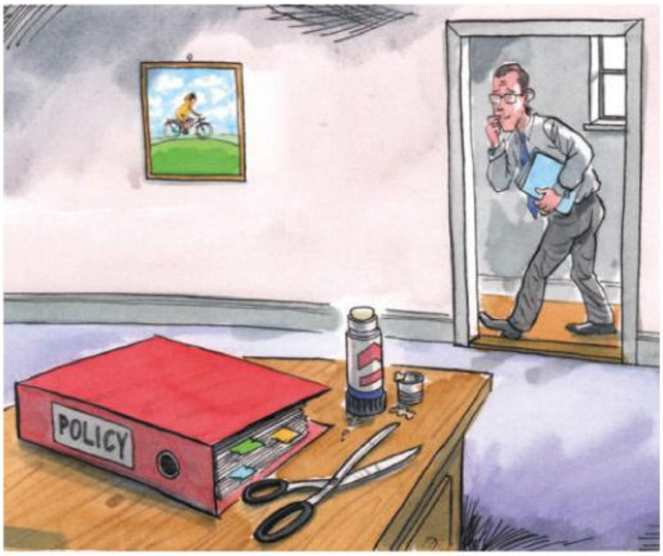
Many Americans remain wary of Mr Macron's freelance diplomacy. "This administration wants a more ambitious Europe," says Charles Kupchan of the Council on Foreign Relations. "But Macron tends to over-fire and act in a way that makes it difficult for him to forge consensus in Europe." Yet positions on Russia have converged. A French national strategic review on November 9th made no reference to Mr Macron's pre-war ambitions to bring Russia into a new European security architecture. He has hardened his tone, and sent more weapons to Ukraine. Disagreements among allies, and with Ukraine, may well emerge over how far Ukraine should keep fighting, notably whether it should aim to reconquer Crimea, which it lost in 2014. But for now such issues are being put off.

Indeed Mr Biden finds Mr Macron's periodic contact with Mr Putin helpful. He shares the worry that a rout of Russia's army could lead to nuclear escalation. That said, Mr Biden may look less kindly on Mr Macron's idea that China could "play a mediating role" in Ukraine. The Elysée says this means helping to exert international pressure on Xi Jinping, China's leader, to tell his Russian friends to stop the war. The Biden administration will be hoping that France does not want to let Mr Xi play at being peacemaker in Europe.

The thorniest issues during the trip will be commercial, starting with America's vast subsidies for clean energy and semiconductors. European allies fear for their own industries, already battered by soaring energy prices. The French may be happy with America sending gas to Europe, but not the prices it is paying for it. Finding a common language on such matters will be testing, even for the oldest of friends. ■

Charlemagne | Cut-and-paste politics

Europeans should steal more of their neighbours' best ideas



Politicians love to claim credit for new ideas. But originality in policymaking is overrated. Devising laws from scratch is hard. Figuring out how a new policy will work in practice is even more so. Observing how a scheme has worked elsewhere, by contrast, is quite easy. And Europe, with 40-odd countries, most of them quite similar by global standards, offers many examples to learn from. If something works well in Spain, it may work in Bulgaria, too. Why innovate when you can cut-and-paste?

Some good ideas have indeed crossed borders. Short-time work schemes are one example. Instead of laying workers off when covid-19 crushed demand for their labour, many European employers cut their hours (sometimes to zero), and states made up part of their lost wages. Thus, workers remained attached to employers, and quickly returned to work when demand picked up again. Germany had shown the idea worked after the financial crisis of 2008. But too often politicians think pilfering is beneath them. They should put their pride aside. For starters, here are six policies that have worked well in one country and might usefully be filched.

Start with Portugal's approach to **drugs**. In 2001 the government decriminalised the possession of cannabis, heroin and other narcotics. The idea is to treat addiction as a crisis of public health, not of public order. Rather than punishing users, which is pointless and cruel, the system concentrates police resources on catching dealers. Drugs are not legal, but people caught with small amounts in their pockets are dealt with by commissions that include social workers and medical professionals, not just cops. Addicts are treated. Potential addicts are identified early. The result is one of the lowest drug-induced death rates in Europe. Other countries now tolerate cannabis, but few have been as ambitious as Portugal for harder drugs.

Next, consider the Dutch approach to **bicycles**. Dollops of funding on bike-friendly infrastructure makes pedalling safer in the Netherlands. So does an inventive rule, codified in 1994: in a collision between a car and a cyclist, motorists are assumed to be at fault unless they can prove otherwise. Only truly reckless cyclists are made to share the blame. Dutch drivers thus treat bike-riders as if they were carrying an infectious disease, giving them the required wide berth. Better yet, whereas motorists in other countries furiously object to new cycle lanes, Dutch ones welcome them, since segregating two-wheelers reduces the chance of a costly accident. Rates of cycling in the Netherlands have increased sharply—and deaths-per-mile-pedalled have plummeted.

Belgium is seldom seen as a paragon of good governance; for a while a decade ago it had no national government at all. But last month it agreed on a thoughtful way to tackle the **energy** crisis. In normal times, landlords are allowed to raise rent in multi-year tenancies in line with inflation. As energy prices have soared, this could have been a double-whammy for tenants, clobbered by high gas bills and the secondary inflation these have caused. So Belgium will allow landlords to jack up the rent only for properties that meet energy-efficiency standards. In the short term this protects tenants. Looking further out it is a nudge for landlords to invest in greenery. France does something superficially similar, but as part of a plan to ban the rental of poorly insulated homes, which could push the worst housing into the black market.

Finland has all but eliminated **homelessness** by simply providing housing to those who need it, with no conditions. In other countries rough sleepers have to tackle their demons—drug addiction, say—before getting a permanent home. But it is hard to sort out a chaotic life while bouncing between friends' sofas, hostels and the street. Thus the cycle of bad to worse is never broken. Finland's strategy is "Housing First": get people into homes, and then help them grapple with their other problems. Old shelters and hostels have been turned into flats that the previously homeless can call their own (having a large stock of state-owned housing helps). It turns out to cost less to provide housing than to deal with the consequences of homelessness.

Europe can learn from Britain, too, and not just about the folly of leaving the European Union. In 2018 Britain introduced unexplained **wealth** orders, whereby a court can demand that when suspicious types buy yachts or penthouses in Knightsbridge, they must reveal where the money came from. (Australia has a similar scheme.) Oligarchs, drug bosses and their relatives may lose their assets if they cannot satisfactorily explain how they were paid for. Enforcing this rule has been a challenge, and has enriched many London lawyers. But reversing the burden of proof on dodgy money makes spending it much harder.

Finally, a cheer for Ukraine. In many countries the **assets** owned by the public sector are used inefficiently. Many public buildings sit wastefully empty for years, for example. But selling such assets is tricky: suitable buyers must be found, corruption must be discouraged. Ukraine's Prozorro.Sale has won plaudits for helping all tiers of government monetise stuff it does not need. The digital platform, managed by the Ministry of Economy, helped generate 60bn hryvnia (around $2bn before the war) in the five years to 2021. Everything from the assets of state-owned banks to rusty pipes no longer needed by local authorities has been flogged. The project is part of a broader initiative put in place in recent years to ensure every kopiyok of public procurement can be tracked in one place.

Steal yourself

One would think that the EU would be a good environment for each member's best ideas to spread. Yet often when a problem is identified, the bloc devises a new one-size-fits-all policy that can be applied across the union. This is cumbersome, and can mean imposing untested policies on everyone. Far better to plagiarise. As Tom Lehrer noted, it's "why the good Lord made your eyes". ■



Renewable energy

Big fans

Offshore wind farms are central to Britain's net-zero hopes

One turn of an "SG 8.0-167 DD" turbine generates enough electricity to run a British home for a day and a night. SG stands for Siemens Gamesa, a subsidiary of the German industrial giant, which makes the machines in Hull. The 8.0 is the turbine's maximum output in megawatts (MW). The 167 is the diameter of its rotor in metres: it sweeps out in a circle equivalent in area to about three football pitches. And the DD stands for direct drive, an electricity-generation technology with no fiddly gears to wear out. At Hornsea 2, a wind farm located off the Yorkshire coast, 165 of these vast turbines form a field of steel stretching farther than the eye can see. Hornsea 2, which became fully functional in August, is now the largest wind farm in the world. When the wind really blows it can power 1.4m homes.

The development of its offshore wind industry is one of Britain's biggest infrastructural successes. The first farms, installed in the early 2000s, amounted to little more than a cottage industry, repurposing tiny onshore turbines for the sea, with outputs of just two megawatts. Since then, the sector has boomed. By 2010 there were 1.3 gigawatts (GW) of wind power in British waters. Today there are 14GW. Until 2021, when it was overtaken by China (see chart), Britain had installed more offshore wind capacity than any other country in the world. About 36% of British electricity now comes from wind, the majority of it offshore. Duncan Clark, the boss of the British arm of Orsted, which developed Hornsea 2, says offshore wind could be producing half of Britain's electricity by 2030. "What has happened is quite beyond almost everyone's expectations," he says. In the process, the cost has fallen sharply. In 2015 new offshore wind cost £120 ($155) per megawatt hour; today it costs well below £40.

Britain's success in wind-farming is partly down to government policy. Contracts for building and running wind farms come with strict progress deadlines (and the risk, if they are not met, of cancellation). The contracts are offered through a competitive auction process which has helped drive down prices. Geography also plays a big part. Britain's coastline runs along the western shore of the North Sea, one of the windiest places on earth. It is relatively shallow, which makes constructing wind farms easier. All this has attracted myriad companies, supplying services and equipment, that developers can call upon to help build farms in British waters. "It's one of the best places in the world to build offshore wind," says Soeren Lassen, head of offshore-wind research at Wood Mackenzie, a consultancy.

It has not all been plain sailing. The government's ambition to bring as much of the industry as possible on to British soil has had mixed success. A turbine factory that General Electric was planning to build in Teesside fell through, "due to a lack of volume", the firm says. Industry insiders said the developer it was supplying failed to secure enough contracts. It now ships ▸▸

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turbines into British wind farms from France. No companies that make and install monopiles—the vast piles of steel rebar and concrete that fix the tower of the turbine to the floor of the sea—are yet operational in Britain, though a South Korean outfit, SEAH, has just started building a £400m factory in Teesside. Orsted has signed a contract with the firm to build its next wind farm, Hornsea 3. It will produce twice as much electricity as Hornsea 2.

More growth lies ahead. Rishi Sunak, the prime minister, has promised to build 50GW of offshore wind by 2030. In his autumn statement on November 17th Jeremy Hunt, the chancellor, mentioned offshore wind repeatedly as a cure for fossil-fuel dependency. Sir Keir Starmer, leader of the Labour Party, pledged more of it in his speech to the Confederation of British Industry on November 22nd. The growth will come through new farms. North of Hornsea a consortium is building a huge wind farm at Dogger Bank. Off Scotland's coast, Berwick Bank, the largest of a series of enormous wind farms will generate more electricity than Hinkley Point C, Britain's newest nuclear power station. Some farms will be floating, rather than fixed to the sea floor, a new technology which will allow even more electricity to be generated off Britain's coastline.

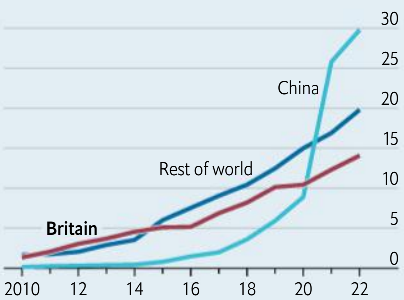
In the short term, the biggest obstacle to Britain meeting its 50GW goal is the success of offshore wind elsewhere: competition for parts and skills is growing. And lean supply chains, a result of the fierce price competition driven by Britain's contract auction scheme, can also cause delays. "The days when the most important thing was shaving 50p off the cost of production are over. What we need now is speed of deployment," says Mr Clark.

Britain's electricity grid must also keep pace, building substations and transformers along the east coast. Existing grid infrastructure was built to cater to coal plants, which tended to be built next to water sources for cooling. While most of the planned future wind farms have already secured their grid connection slots, some have not. This can be a slow process, one the government could speed up by simplifying the planning process and reforming grid designs made for a fossil-fuel world. All offshore wind-generated electricity should eventually come ashore through one of 15 big onshore interconnectors, with their own dedicated offshore grids. Fossil-fuel power, by contrast, tended to be plugged in plant-by-plant. The government could also encourage businesses which do not currently run on electricity, like transport, heat and heavy industry, to make the switch. Longer-term, the offshore wind industry will run into a wall of stagnant demand unless these big chunks of economic activity are electrified.

The rewards will exceed large amounts of clean electricity. Offshore wind employs around 20,000 people in Britain, many of them in maintenance. By 2030, more than 61,000 workers could be employed in the sector, according to the Offshore Wind Industry Council. Many of those jobs will be in places like Grimsby, Hull and Teesside, where the government wants to boost the economy. To get there, the government needs to stay the course and create a stable environment for more companies to set up shop in Britain. ■

Blown away

Wind turbines, cumulative grid-connected capacity, gigawatts



Source: Wood Mackenzie

Recession watch

Looking up

What could improve Britain's economic outlook?

As the festive season approaches, economic cheer is thin on the ground. Household incomes are being pummelled by soaring energy bills. Rising interest rates are squeezing mortgagors and throttling the government's finances. Taxes are rising. The Office for Budget Responsibility (OBR), a fiscal watchdog, is predicting the steepest drop in living standards on record. On November 22nd the OECD, a club of mostly rich countries, predicted that over the next two years only the Russian economy would fare worse among G20 countries. The Bank of England reckons the recession has already started. Could anything brighten the gloom?

One hope is that interest rates rise more slowly than previously feared. When the OBR and the bank made their forecasts, both assumed that rates would follow the path investors were betting on—in the OBR's case, rising to 5% in 2023. Interest-rate expectations shot up globally during the autumn (and in Britain were briefly propelled above 6% by a disastrous mini-budget). Plugged into economic models, high rates produce awful results. The OBR's forecast, released on November 17th, marked up projected debt-interest spending by more than ever before (see chart). The Bank of England projected the recession would cause inflation to crash beneath its 2% target by 2024.

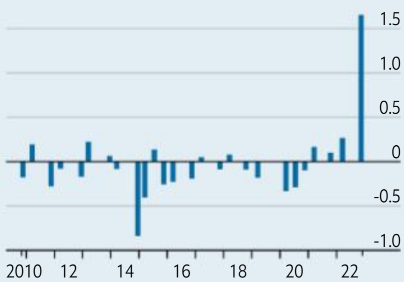
Yet it is the bank, not investors, that sets rates. Its forecast was a signal that markets were too hawkish. Sure enough, the expected peak rate has since fallen to 4.6%. Lower rates mean cheaper borrowing and more growth. Had the OBR measured expectations closer to when its forecast was released, the government's finances would look £10bn better in the 2027-28 fiscal year, an improvement of 0.3% of GDP. The OBR's rule of thumb is that a one percentage point fall in long- and short-term interest rates would raise GDP by 0.4%.

Imogen Bachra of NatWest, a bank, warns that so far this year investors have largely been vindicated in their expectations of sharply rising rates. Their projections are partly based on the observation that the labour market has been pretty resilient to interest-rate rises so far, and so monetary policy will need to be aggressive to stamp out inflation. If rates do not rise as quickly as investors expect, that is not necessarily good news. Kamakshya Trivedi of Goldman Sachs, another bank, points out that such a scenario would probably involve weaker-than-expected demand.

The best sort of surprise would be one that reduced inflation while allowing the economy to produce more. An easier trade relationship with the EU or lower global energy prices could achieve that. The latter, which seems likelier, would reduce pressure on household incomes and help the public finances by reducing the cost of government support. It would also boost growth. The OBR reckons that for each 10% fall in energy input prices, potential output could be lifted by 0.2%. Optimists should study energy markets carefully, then. And try to forget that what can go down can also go up. ■

What we owe the future

Britain, revisions to government debt-interest forecasts*, % of GDP



Sources: OBR; *The Economist*

*Difference from previous OBR forecast, last comparable year available

Bagehot | Conservative realism

It is easier to imagine the end of the world than the end of Tory rule



The best guide to British politics today was written 13 years ago and features the Marxist analysis of Slavoj Zizek applied to the Disney film "Wall-E". "Capitalist Realism", a short and eclectic book by Mark Fisher, a leftie cultural theorist, became an unlikely bestseller after it was published in the wake of the global financial crisis. Its main argument was that an alternative to capitalism was not just impossible but incomprehensible. It was, in the book's punchy refrain, easier to imagine the end of the world than the end of capitalism.

A similar sensation overcomes anyone observing British politics. Conservative realism has become embedded in Britain. Capitalist realism created "a pervasive atmosphere," wrote Fisher, "acting as a kind of invisible barrier constraining thought and action". So too does its Conservative cousin. The breadth of British politics stretches from one end of the Conservative manifesto to the end, and no further. The Conservatives may be struggling in the polls, potentially facing a landslide defeat. But Conservative realism will continue long after the party from which it takes its name leaves power.

After 12 years of Conservative rule, Britain has a limited political imagination. When a government source suggested closer ties with the EU, a weeklong bloodletting followed, with anonymous briefings shutting down the idea. That a clear majority of Britons now think leaving the EU was a mistake barely influences the debate. So both the Conservatives and the Labour Party, which promises a similarly detached relationship with Brussels, plough on with an argument in which public opinion is an irrelevance.

It is the same with immigration. The sainted NHS and the unsainted CBI are crying out for more workers. Polls indicate that Britons, on the whole, are happy for immigration to go up if needed. Yet talk of looser immigration rules are pooh-poohed by government ministers. Labour discusses the topic with the caution of a hostage negotiator dealing with a suicide-bomber. That certain topics, such as planning reform, are politically *verboten* is due to the constraints of conservatism, rather than some law of physics.

Jeremy Hunt, the new chancellor, set out a budget on November 17th that was steeped in Conservative realism. The spending cuts are not on the same level as those under George Osborne, the Tory chancellor from 2010 until 2016. But the philosophy is the same. Deep spending reductions will come at some point in the future, while capital investment will be squeezed. Labour tuts from opposition but accepts the parameters set by its opponents.

In a world of Conservative realism, only certain voters count. Invariably these are immigration-sceptic, Leave-voters generally in the Midlands or the north—a proverbial voter that dominates the thoughts of people who rarely leave Westminster. The wishes of, say, a well-off liberal in Surrey who would have happily voted for the Conservatives in a previous guise are dismissed, in the same way as those of a toddler or a dog might be.

Younger voters are forgotten, too. "What happens if the young are no longer capable of producing surprises?" asked Fisher. He pointed to a stagnant culture, despairing at pop bands that sounded like lame 1960s throwbacks. A similar problem afflicts British politics: what happens when the young are incapable of effecting political change? The answer is a stagnant economy. Where pensioners are spread across the country, making them crucial in every constituency, younger voters are piled up in cities, weakening their electoral clout. Britain is ruled in the interests of the elderly, for whom economic growth feels like an inconvenience rather than a necessity.

Labour has a solid lead of over 20 points in the polls, putting it on course for a comfortable or even rather large majority. But this demonstrates the triumph of Conservative realism, rather than a challenge to it. Sir Keir Starmer won the Labour leadership promising to continue the programme of Jeremy Corbyn, his left-wing predecessor. But Sir Keir intends to win the next election on a platform of Conservative realism. Unless the party changes course in office, Labour will govern within the Tory parameters of low immigration, tight spending and a distant relationship with the EU.

The strategy is understandable. Challenges to Conservative realism rarely end well. Mr Corbyn's project dragged Labour to its worst performance since 1935. Liz Truss, Britain's short-lived prime minister, challenged the orthodoxy from the other end. Britain was to be hellbent on growth. Unfortunately the anti-growth coalition that she promised to attack was found largely in her own party. Conservative realism reasserted itself; Ms Truss became an answer in a pub quiz.

Pity poor Albion

People have begun to notice that things are not working well. They will get worse. The country is about to suffer its biggest drop in real incomes since records began, with a 7% fall over the next two years. Taxes will rise. Earnings will dip to where they were in 2013, when Britain was in another period of stagnation. Voters have realised that Conservative realism has not produced good results, even if neither party has quite caught up. Those who realise radical change is needed are still in a minority in both the Conservatives and Labour. There is no alternative, for now.

And so the Conservatives hope to replay the 2010 and 2015 elections, when the party was far from liked but still elected. Taking difficult decisions now, such as whacking middle-class voters with higher taxes on income, will be grudgingly rewarded by voters, who see economic pain as a proxy for competence, runs the argument. Fisher ended his text on a hopeful note: "The tiniest event can tear a hole in the grey curtain of reaction which has marked the horizons of possibility." Sadly for Fisher (although happily for this newspaper), capitalism did not crumble. Capitalist realism survived. Its Conservative cousin will too. ■



Climate change

Hot tempers

SHARM EL-SHEIKH

How—and how much—should polluting countries pay for climate damage in poor ones?

THE ANNUAL UN climate talks are sometimes compared to a circus, or a battleground. This year's summit, held at the Egyptian resort of Sharm el-Sheikh, and known in the jargon as COP27, was an appropriate mix of comedy and rancour. Problems with the catering left many delegates scrounging for sandwiches and bananas in between meetings and group calls. John Kerry, America's chief negotiator, was stricken with covid-19 and was forced to negotiate from the isolation of his hotel room.

The talks had been due to finish on November 18th. By the wee hours of November 20th, they were still going. In the end, it was sleep deprivation and weariness, more than any grand political breakthrough, that forced a result. The outcome was a text that ducked the biggest challenge, with countries refusing to promise to stop burning fossil fuels. Instead they repeated earlier pledges to "phase down unabated coal" and to get rid of "inefficient" fossil-fuel subsidies—phrases that leave plenty of useful wiggle room for the unmotivated.

But COP27 may have tipped the balance of debate on two other points. The first is "loss and damage". This is, essentially, the "polluter pays" principle of environmental regulation applied to the entire world. The idea is that rich countries will pay poor ones to help them deal with damage caused by immediate climate-related disasters, such as floods, and creeping ones, like desertification. The second is that fixing climate change will require tinkering with the fundamentals of the global financial system. Once a niche idea, it too is gathering momentum.

Warm words

Loss and damage generated the most headlines. The idea dates back to 1991 when Vanuatu, an island nation in the Pacific, suggested an insurance scheme to help pay for the consequences of rising sea levels. For 30 years such demands were rebuffed. Leaders of big carbon-emitting countries—and their lawyers—would not give any airtime to anything that might suggest financial liability for climate change.

But last year, at the previous COP summit in Scotland, that country's first minister promised £2m ($2.4m) to the cause. Against the scale of the problem, of course, that is an invisibly tiny sum. But it was a first hint that the tide might be turning. Earlier this year, heavy monsoon rains caused more than $30bn of damage and financial losses in Pakistan, nearly 9% of the country's GDP. Natural climatic variations, notably an ocean-cooling phenomenon known as "La Niña", were partly responsible. But the rains were very likely made heavier by the effects of greenhouse gases.

The floods were seized upon at COP27 as demonstrating the need for rich countries to loosen their purse-strings. A scattering of promises made by other European governments brought the total pledged to €255m ($262m), with the bulk of the money—€170m—coming from Germany. Bolstered by support from the European Union, the G77, a group of poor and middle-income nations, obtained a promise to set up a new fund under the auspices of the UN, the details of which will be agreed by November next year.

The summit, in other words, created a coffer. But how much money will end up inside it is unclear. Persuading the citizens of industrialised nations to pay up for sins committed at least partly by their grandfathers will be tricky, to put it mildly. And history suggests poor countries would be unwise to hope for too much. One common complaint at COP27 concerned the developed world's failure to honour promises made at the Copenhagen climate summit in 2009. That had promised to raise ▸▸

$100bn a year to help poor countries adapt to a warmer world by building flood defences, heat-proofing homes and the like. That amounted to an "egregious and unexplained default", said William Ruto, Kenya's president. (No more than $83bn has arrived in any single year.)

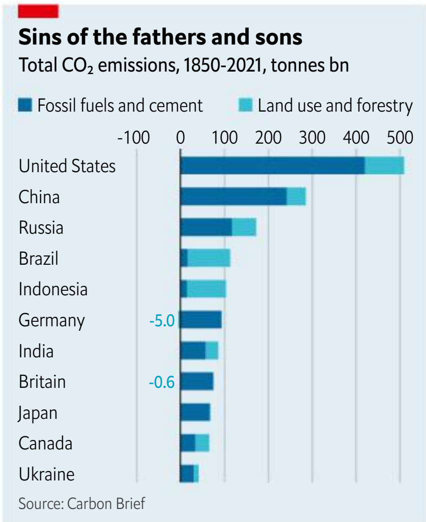
Even if the idea of a separate loss-and-damage fund does catch on, there is still plenty to argue about when it comes to the question of who, exactly, should pay. There are many ways to estimate a country's historic emissions, for instance (and therefore the amount of warming they have caused). One analysis compiled by Carbon Brief, a specialist website, and based on a variety of scientific papers and official sources, includes both industrial emissions and those from changes in land use, such as cutting down forests. Unsurprisingly, it puts America at the top of the list. But it is followed not by other rich countries, but by big, middle-income places such as China (now the world's biggest greenhouse-gas polluter), Russia, Brazil and Indonesia (see chart).

There is likely to be squabbling over who might benefit, too. The EU wants the money to go mostly to "particularly vulnerable" countries rather than "developing" ones. Under the outdated definitions of the UN Climate Convention, the latter category includes places such as middle-income China and super-rich Singapore, whose citizens these days earn more than twice as much as those of the EU. Decisions "must take into account the economic situation of countries in 2022 and not in 1992", said Frans Timmermans, the EU's chief negotiator.

The conference also looked into more technocratic ways to raise cash for poorer nations. The "Bridgetown Initiative", named after the capital city of Barbados, was championed by Mia Mottley, that country's prime minister. It proposes overhauling international financial institutions such as the IMF and the World Bank.

Such ideas were starting to gain traction before they popped up in Sharm El-Sheikh. In July a report commissioned by the G20, a club of rich-ish countries, recommended changing the rules governing multilateral development banks, such as allowing them to pay less attention to the opinions of credit-rating agencies when assessing loans. Advocates such as Avinash Persaud, an adviser to Mrs Mottley, say that allowing the world's various development banks to engage in riskier lending could unlock around $1trn of extra cash without their shareholders having to put in any more money. In October Janet Yellen, America's treasury secretary, said the World Bank in particular should try to find ways to "stretch" its balance sheet.

More controversial is a proposal to set up a new "Global Climate Mitigation Trust" at the IMF, the international lender of last resort. Ms Mottley suggested a $500bn issue of special drawing rights (SDRs), a kind of quasi-currency created by the fund, to capitalise this new operation, alongside money from private investors. The trust would then lend at below-market interest rates to projects in poor countries that aim to cut carbon emissions. The IMF's rules mean that the SDRs could simply be created at the stroke of a bureaucrat's pen, without any further commitments from the fund's shareholders.



Ms Mottley's initiative has won support from France's president, Emmanuel Macron, who told the delegates at Sharm El-Sheikh that the World Bank and IMF needed new rules and new thinking to grapple with climate change. Mr Macron was particularly keen on the idea that, in the aftermath of a climate-related natural disaster, poor countries could have their debt repayments temporarily suspended. But not all Western leaders sounded as approving of the new thinking. Issuing SDRs has been historically rare, reserved for moments of acute financial crisis. America's share of voting rights gives it a veto at the IMF. In October Ms Yellen said she thought now was not the time for issuing more.



Rows between rich countries and poor ones are a standard feature of climate summits. Poor countries ask rich ones for money; rich countries chide poor-country governments for failing to pay debts or mismanaging funds. (Mr Ruto's words over the missing billions from Copenhagen were a deliberate inversion of the trope.)

This time, though, both rich and poor countries were feeling more squeezed than usual. National debt burdens ballooned during the covid-19 pandemic. The rising cost of food and energy, a consequence of Russia's invasion of Ukraine, is causing belt-tightening in rich countries—especially in Europe—and havoc in poor ones, whose suffering is further compounded by the strength of the dollar. The world's economic outlook is gloomier than it has been in recent years. All of that makes it even harder to scrounge up the money needed to deal properly with climate change.

The climes, they are a-changin'

The bill keeps rising. Weaning entire economies off fossil fuels will be enormously expensive. At the same time, a hefty dose of climate change is already inevitable. Adapting to a warmer planet—more flood defences, heat-proofing buildings and the like—will require vast sums of its own. One UN estimate puts the cost at over $200bn a year by 2030.

Those at the highest risk will struggle most. Without affordable insurance, Caribbean and Pacific island states have to borrow when a natural disaster hits and repay the money when times are good. By one estimate, countries at higher risk of natural disasters have debt-to-national income ratios that are already 1.5 percentage points higher than others, a number that could rise in future.

Cutting emissions, adapting to a warmer climate, and paying for climate-caused damage are all linked. Faster decarbonisation means a lower bill for adaptation, and less spent on rebuilding after disasters. But one lesson from COP27 is that the world has not yet worked out how to do all three simultaneously. As the delegates staggered to their beds, Alok Sharma, a British politician who presided over last year's talks, hailed the creation of a loss and damage fund. But he regretted that more had not been done: "Emissions peaking before 2025…Not in this text. Clear follow-through on the phase down of coal: not in this text. A clear commitment to phase out all fossil fuels: not in this text." ■



Multinational companies

Giving up on China

Should multinational firms in China divest, decouple—or double-down?

Few jobs are guaranteed to turn hair grey faster than running operations for a multinational business in China. Diplomatic spats and consumer boycotts are hazards of the job. A zero-covid policy that causes intermittent local lockdowns, such as the one that recently began in the southern city of Guangzhou, has disrupted supply chains and made the country inhospitable to foreign managers. A fractious workforce is adding to the woes. On November 23rd a riot erupted over pay and working conditions at the main factory that makes Apple's iPhones in China. In a survey by the European Chamber of Commerce in China, 60% of members reported that the business environment has become more challenging.

One solution for international firms is to rely less on China for manufacturing. Some have been diversifying supply chains away from the country. Companies including Apple and Hasbro, a toymaker, have spread production to Vietnam and India, where wages are lower and the operating environment is less likely to induce a migraine. Bangladesh and Malaysia are becoming more attractive to clothes-makers. But for many multinationals China is more than just a cheap place to make things, and therein lies a less tractable problem.

China's increasingly affluent 1.4bn inhabitants now account for a quarter of global sales of clothes, nearly a third of jewellery and handbags, and around two-fifths of cars, plus a sizeable share of packaged food, beauty products, pharmaceuticals, electronics and more (see chart on next page). Its gigantic manufacturing base makes it the world's largest market for machine tools and chemicals, and its construction industry has been the largest buyer of building equipment for years.

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Although 2,800 exhibitors from 145 countries recently turned up to flog their wares at the China International Import Expo in Shanghai, in aggregate global business's exposure to China looks modest. For all listed American companies, China accounts for just 4% of sales, according to Morgan Stanley, an investment bank. For Japanese and European firms the figures are 6% and 8% respectively.

Yet there is a cohort of firms for whom China has been far more important. *The Economist* has analysed multinational firms from America, Europe and Japan that disclose sales in the Middle Kingdom, using data from Bloomberg. The 200 biggest of these earned $700bn there last year, or 13% of their global sales, up from $368bn, or 9% of sales, five years ago. Of the $700bn, 30% was generated by technology-hardware firms, 26% by consumer-facing businesses, and 22% by industrial companies, with carmakers and commodity businesses also important. Some 13 multinationals report over $10bn of revenue a year in China including Apple, BMW, Intel, Siemens, Tesla and Walmart.

An unlucky subset of multinationals operating in China has already found itself caught in the geopolitical crossfire. On our list 22 companies are in the semiconductor ▸▸

business. Many will find their sales pummelled by America's ban on selling advanced chips and chipmaking equipment to China. When on average 30% of revenues come from China that will be a painful adjustment.

With relations between China and the West on shaky grounds, notably over the issue of Taiwan, even multinationals that operate outside so-called strategic sectors are hatching contingency plans for a world without access to the country. For many their situation is worsened by growing competition from local firms.

Premium carmakers such as BMW and Mercedes-Benz continue to grow robustly in China, but sales from mid-range ones like Volkswagen (VW) and General Motors are shrinking as homegrown rivals including Chery and BYD expand rapidly. Sales for Nike, a sportswear brand, are also stalling as Li-Ning and Anta, two local competitors, gain ground. Sales have similarly stalled for AmorePacific, a Korean beauty firm, as competition stiffens from mid-range Chinese brands such as Winona. Foreign makers of construction equipment including Caterpillar and Hitachi have been losing sales thanks to a combination of increased competition and a construction downturn. In *The Economist*'s analysis of 20 industries with a sizeable multinational presence, foreign companies have lost share in 14 over the past three years.

Two forces are at work. The first, especially important for consumer goods, is that foreign brands are losing their cachet. Knowing how to design products and build demand has given an important competitive edge to multinational consumer-goods firms, notes Wern-Yuen Tan, head of the Asia-Pacific region for PepsiCo, a food and drink firm. By watching and learning, not to mention poaching talent, local businesses have begun to bridge that gap.

The Chinese consumer has been changing, too. Many now prefer products that incorporate distinctive Chinese cultural imagery, a phenomenon known as *guochao* (literally "national trend"). What started with a China-themed lineup by Li-Ning at New York Fashion Week in 2018 has spread to everything from make-up to soup.

Foreign brands have had mixed success incorporating Chinese culture into their products. Osmanthus-flavoured Pepsi was a hit. Less popular was a sneaker range from Nike displaying two Chinese characters that individually translated as "becoming wealthy" and "fortune" but when put together meant "getting fat". Nike and other foreign firms have also dented their positions by expressing concern over the country's brutal treatment of its Uyghur minority in Xinjiang.

The second reason for the troubles of multinationals, particularly in heavy industries, has been a shrinking technological advantage. The typical strategy for Chinese firms has been first to disrupt the inexpensive, commoditised end of a market and gradually move up into more sophisticated offerings as expertise builds, notes Weiwen Han, China head of Bain, a consultancy. That helps explain why carmakers like VW are struggling, and why foreign firms in industries from construction equipment to machine tools are being pushed into the premium market.

This should come as no surprise. When foreign firms first sought access to China, beginning in the 1980s, entering joint ventures with Chinese firms was a condition in industries like carmaking and machinery. It was a Faustian bargain, with domestic firms gradually absorbing foreign engineering expertise. The fact that China is now loosening joint-venture requirements shows that it no longer fears the technological edge of outsiders.

The growing challenge from locals is putting many multinationals in a sticky situation: maintaining competitiveness in China demands increased investment even as the geopolitical risks are mounting. For now most multinationals have time on their hands. Of the list of 200 companies we examined, 144 have still grown in China over the past three years.

Movers and makers

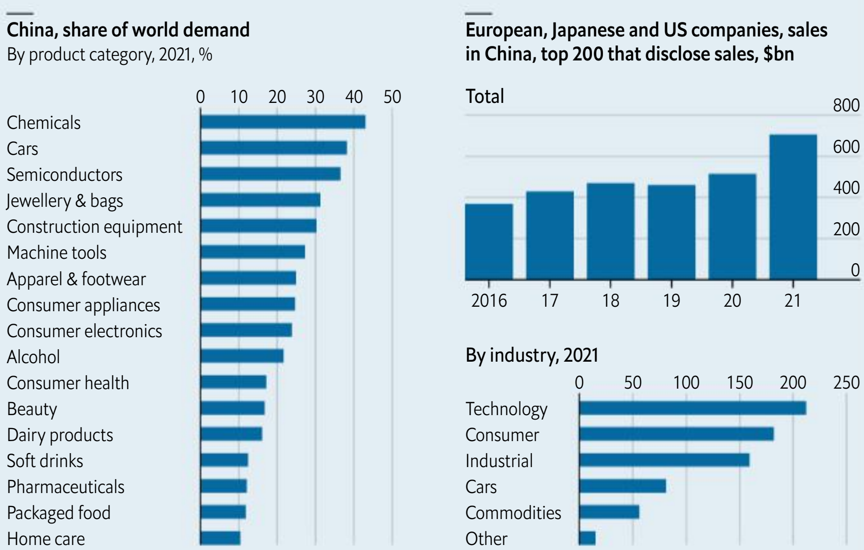
Over time the situation will become more vexing. China has lacked the expertise to manufacture its own large commercial jets, with Boeing and Airbus controlling the industry. At an airshow on November 8th COMAC, a local manufacturer, debuted its long-awaited C919 , a short-haul passenger aircraft, and will soon start deliveries to Chinese carriers. Western firms like LVMH and Hermès have for years dominated the flashiest end of fashion in China, but homegrown competitors like Shang Xia are gaining momentum. Such rivalries will force foreign firms to confront the awkward question of their long-term future in the country. They will need to choose one of three paths—divest, decouple or double-down.

Divestment is an option for some. Carrefour, a French supermarket chain, sold 80% of its China business to Suning.com, a local retailer, in 2019 after more than two decades in the country. Gap, an American clothing retailer, announced on November 8th that it would offload its Chinese business to Baozun, a local e-commerce company. Throwing in the towel while the business is still worth something will probably be the favoured option for firms that have lost their edge over domestic rivals and can afford to live without China.

Decoupling is a second possibility. Yum! Brands, the owner of KFC and other fast-food franchises, split out its China business in 2016 to allow the unit to adapt more easily to local conditions. The following year McDonald's did the same. The strategy comes with the added advantage of simplifying any divorce proceedings initiated by geopolitical souring while for now allowing the local business access to parent company brands and other intellectual property. This route however will only be viable in cases where China can be operated as a self-contained unit; it is off the cards for firms like Boeing or LVMH that rely on manufacturing abroad.

Third, consider doubling-down. Siemens, a German industrial conglomerate, recently revealed that it is ramping up investment and shifting a significant share

Not just the world's factory



Sources: Euromonitor; Off-Highway Research; Daxue Consulting; Chemdata International; IC Insights; Bloomberg; *The Economist*

of research and development to China in order to "beat the local champions", according to Roland Busch, the company's boss. On October 13th VW announced it would invest €2.4bn ($2.5bn) to establish an autonomous-driving joint venture with Horizon Robotics, a Chinese firm.

Such hard-to-reverse commitments will be most common in industries where keeping a strong position in China is critical for global competitiveness. Carmakers fear that giving ground to local champions, many of whom are already at the cutting edge of electric vehicles and software, would give them a launch pad to enter other big markets. If relations between China and the West remain cordial, doubling-down may pay-off. If they worsen, things may quickly unravel for the geopolitical gamblers of global business. ■

The space business

Countdown to lift-off

MUMBAI

India's private rocketeers reach for the sky

THE FLIGHT, a 90km sub-orbital jaunt, was over in minutes. But for India the rocket launched by Skyroot Aerospace on November 18th, the first by a private company in the country, was a moonshot. Numerous other flights in the coming months will signal an industry ready for take-off.

Satellites built by two Indian companies are set to be sent into space on November 26th, carried on a rocket launched by India's space agency. The one made by Pixxel, a Bangalore-based startup, is intended to be the first of dozens that will provide detailed images of Earth. Two manufactured by Dhruva Space from Hyderabad will serve to demonstrate to potential customers that it can make, deploy and operate satellites successfully. A second private rocket launch by Agnikul Cosmos is set for December.

India's involvement in space is not new. Rockets were first sent up in the early 1960s, satellite launches began in 1975 and a probe went to the moon in 2008 . A reputation for low-cost space research was cemented in 2013 when another probe was dispatched to Mars for less than the budget of a Hollywood film about a doomed space mission released around the same time. But India is no superpower. Revenues from the space economy are currently estimated to be nearly $10bn a year, only around 2% of the global total.

The surge in activity will push India up the rankings. It is a consequence of a change in government policy in 2020. Before then private firms could only operate as suppliers to the government-run Indian Space Research Organisation (ISRO). That body will now provide research, technology, facilities and even experienced former employees to private companies (half a dozen worked on the Skyroot launch). A new agency, IN-SPACe, has been created to orchestrate the transition.

This has resulted in a cascade of applications from eager participants; 68 firms hope to manufacture payloads, another 30 intend to make rockets and components, and 57 more want to develop ground stations or exploit space-derived data, from monitoring steel production to locating shoals of fish at sea .

It is not only Indian firms that hope to benefit. Some of the world's largest companies, including well-known names in big tech, are poised to take advantage of Indian expertise in software and data analysis along with low costs. Skyroot believes it will be able to deliver basic payloads at the same price as the likes of SpaceX and for custom jobs at half the going rate charged elsewhere by using new manufacturing processes. Agnikul hopes to dispense with conventional launch sites, replacing them with cheaper mobile pads.

Investors seem convinced. While most Indian startups are suffering the same waning of enthusiasm and funding hitting the rest of the world, space ventures are the exception. In November GIC, Singapore's sovereign-wealth fund, invested $50m in Skyroot; Agnikul raised $20m and Dhruva says it recently doubled its pre-existing investment. More money and new entrants are on the way, says Pawan Goenka, who retired in 2021 from the leadership of Mahindra & Mahindra, an industrial conglomerate, and now leads IN-SPACe. India was late to the space-business party, but now it seems ready to blast into orbit. ■



Startup, up and away



Wages and inflation

Hard bargains

BERLIN

Germany's biggest union strikes a deal on pay

"ON THE WHOLE we are pretty happy with the deal," says Stefan Wolf, boss of Gesamtmetall, the metal-engineering industry's employers' association, about an agreement on pay struck on November 18th for workers in the state of Baden-Wurttemberg. IG Metall, Germany's mightiest trade union, had asked for a hefty annual pay increase of 8%. Bosses managed to buy time by granting them an increase of 8.5% spread over two years. That deal was mirrored by Volkswagen and IG Metall when they struck a deal on November 23rd.

The agreement is likely to be adopted by most if not all 3.9m workers and their employers in the country's metal-bending companies and influence wage deals in other industries in Germany and neighbouring countries. Pay rises are now set until September 2024, giving employers much-needed certainty about at least one important aspect of their input costs.

"It's on the high side, but bearable," states Holger Schmieding, chief economist of Berenberg, a German private bank. Workers will receive a 5.2% pay increase in June next year and a 3.3% raise in May 2024 and two tax-free bonus payments of €1,500 ($1,550). This is hardly keeping pace with inflation, which reached an annual rate of 11.6% in October in Germany, but looks generous considering the numerous other headwinds faced by businesses including an energy crisis, supply-chain bottlenecks and a looming recession.

The deal offers reassurance that Ger- ▸▸

many's social partnership between bosses and workers is alive and well. It comes at a time when the country's economic model is being called into question by sky-high energy prices and an increasingly testy relationship with China, Germany's biggest trading partner. Collective "tariff" agreements (the periodic deals that set wage levels for each industry) help to keep relations between bosses and workers harmonious. It came as a surprise to some pundits, who had previously also forecast a "hot autumn" of violent strikes and walkouts, but with a few isolated exceptions workers haven't downed tools.

The cost of keeping workers happy is nonetheless being borne elsewhere. "The model is working so well because the government is spending tens of billions to ease the burden of sky-high inflation for workers," says Philippa Sigl-Glöckner, head of Dezernat Zukunft, a think-tank. Germany is about to introduce a brake on gas prices that will subsidise energy bills for households. In July families received a one-off payment of €100 for each child eligible for benefits. In September all German employees who pay income tax received a €300 lump sum to help with meeting the rising price of energy. The government even helped to broker the IG Metall pay deal by allowing the two bonus payments to come tax free.

Mr Schmieding expects the pattern set by the IG Metall and VW deal and a similar agreement struck recently by bosses and workers in the chemical industry to influence wage talks across the euro zone: front-loaded wage increases in 2023 followed by much smaller pay rises in 2024. If that sounds relatively rosy, there will still be ill-effects.

Over the next two years an increase in corporate bankruptcies in which higher wage bills play a role are on the way, according to Allianz Research. The research arm of Germany's biggest insurer expects corporate insolvencies to rise by 29% in France in 2023 compared with this year, by 36% in Italy and by 17% in Germany as energy costs and higher interest rates and pay take their toll.

And the calm may come before another storm. In the next rounds of wage talks in January the government will be at some of the negotiating tables. Ver.di, Germany's second-biggest union, which represents workers in service industries, wants an annual 10.5% raise for 2.5m public-sector employees. For the 160,000 employees of the formerly state-owned postal servcie, Deutsche Post, Ver.di is demanding a 15% increase—and threatening to call strikes if these demands are not met. Germany might suffer crippling industrial action at the start of next year, unless its tradition of social peace prevails, with lashings of government subsidies thrown in. ■

Amazon's new health care push

Prime of life

It might be its riskiest business venture yet

As big tech firms face a brutal slowdown the hunt is on for new areas of expansion. Amazon, which is now America's second-biggest business by revenue, is a case in point. In the final quarter of 2022 its sales are expected to expand by just 6.7% year-on-year. On November 17th Andy Jassy, its chief executive, confirmed that the firm had begun laying off workers and would fire more next year. He said it was the hardest decision he had made since becoming boss. But he also noted that "big opportunities" lie ahead. One is the largest, most lucrative and hellishly difficult business in America: health care.

Many tech firms have health-care ambitions. Apple tracks well-being through the iPhone. Microsoft offers cloud-computing services to health firms. Alphabet sells wearable devices and is pumping money into biotech research. But Amazon is now creating the most ambitious offering of all. Two days before Mr Jassy's statement it launched "Amazon Clinic", an online service operating in 32 states that offers virtual health care for over 20 conditions, from acne to allergies. Amazon describes the service as a virtual storefront that connects users with third-party health providers.

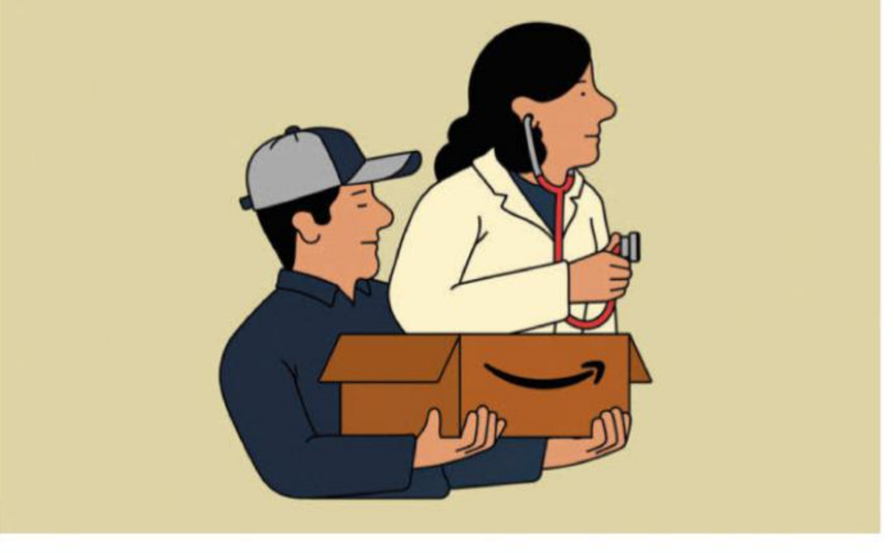
The Amazon Clinic launch follows a $3.9bn takeover, announced in July, of One Medical, a primary-care provider with 790,000 members that offers telehealth services online and bricks-and-mortar clinics (the deal is yet to close). The deal was led by Neil Lindsay, formerly responsible for Prime, Amazon's subscription service. He has said health care "is high on the list of experiences that need reinvention".

These latest moves complement Amazon's existing assets. Its Halo band, a wearable device that went on sale in 2020, monitors the health status of users. In 2018 it bought PillPack, a digital pharmacy that is now part of Amazon Pharmacy, for $753m. Amazon Web Services launched specific cloud services for health-care and life-science companies in 2021.

The move into primary care, jargon for the role of the family doctor, is a big step but a logical one. Walgreens, a pharmacy chain, reckons the industry is worth $1trn a year. Around half of Generation Z and millennial Americans do not have a primary-care doctor and One Medical's membership has almost doubled since 2019. Amazon Clinic will accept cash for its services, rather than relying on America's nightmarish insurance system to recoup costs.

The firm is betting that primary care will become more digital. It is likely that it will seek to integrate these services with other parts of its health-care offering. Amazon Clinic's new users can buy drugs from Amazon Pharmacy. The firm could add a feature to the Halo band reminding users to take medicine. It might set up clinics in branches of Whole Foods, the supermarket chain it acquired in 2017. And it may wrap health care into Prime, which now has some 200m members worldwide. "The low-hanging fruit is offering discounts on membership to Prime members," says Daniel Grosslight of Citigroup, a bank.

Amazon's health push comes with several risks. One is that its own record is not flawless. It is closing Amazon Care, which it launched to provide health services for its employees and which expanded to offer some services to outside customers. Haven—a collaboration with Berkshire Hathaway, Warren Buffett's investment firm, ▸▸



and JPMorgan Chase, a bank—was set up in 2018 to procure lower-cost health care for employees. It died nearly three years later.

Another danger is competition. In September CVS, an American retail pharmacy, reportedly outbid Amazon for Signify Health, a large primary-care provider. In October, Walgreens increased its stake in VillageMD with a $5.2bn investment. JPMorgan recently opened primary-care centres. The likes of Ro and Hims & Hers, tech startups dedicated to providing virtual health care, are also rivals.

Finally, Amazon will have to grapple with regulators. The Federal Trade Commission, a trust-busting agency, is examining the One Medical deal. The takeover, and the launch of Amazon Clinic, will raise questions about who should be allowed to hold sensitive health-care data. Amazon has said "we remain focused on the important mission of protecting customers' health information". The firm may need to set up hefty firewalls to separate customer information held by clinics from that gathered through other products and services. But satisfying data-privacy concerns could wipe out many of the data-sharing opportunities that Amazon deftly deploys across the rest of its business.

Amazon's attempts at disrupting health care will be subject to intense scrutiny. Nonetheless it should have a positive effect on health care in America. Its experience at keeping customers happy while generating razor-thin margins could improve primary care and force rivals to up their game. It may also prompt other tech giants to do more to disrupt health care. All this may be just the medicine that America's heath-care system—and Mr Jassy's tenure as Amazon's boss—badly need. ■

Bartleby How to do lay-offs right



It means thinking primarily about the people who are left behind

It's not just Twitter. The pink slips are piling up at some of the biggest names in tech. Mark Zuckerberg, the founder of Meta, is eliminating more than 11,000 roles, around 13% of the social-media company's workforce. On November 22nd HP announced up to 6,000 job losses, which would be around 10% of the IT firm's staff. Amazon's boss, Andy Jassy, has warned of more cuts next year, on top of those already unveiled in the retailer's devices and books businesses. Stripe revealed that 14% of the staff at the digital-payments firm were being let go. Snap and Shopify announced their own rounds of lay-offs earlier in the summer.

Jobs are disappearing in other industries, too. Investment banks have started paring staff in anticipation of a slowdown in dealmaking. Property firms are laying people off as housing markets cool. Beyond Meat, which makes plant-based products, cut almost 20% of its workforce in October.

The people who suffer most from lay-offs are those who lose their jobs. But the colleagues who are left behind also endure lasting consequences; and for managers, this group is the one that determines success. Some suffer a form of survivors' guilt, asking themselves why they kept their jobs and colleagues did not. (Only at Twitter do the people leaving feel guilty about those who are left behind.) Others must grapple with the practicalities of replacing departed workers and with the stress of heightened job insecurity: if the axe has fallen once, it may do so again.

The results can be depressed morale, lower productivity and unexpected costs. Research conducted in 2008 by two academics at the University of Wisconsin-Madison found that, for an average company, downsizing the workforce by 1% was associated with a 31% increase in voluntary turnover rates. That means more disruption as well as additional money spent on filling open positions.

To keep survivors motivated, managers need to get three things right. The first imperative is to appear fair. This is a capacious concept. Fairness involves treating departing colleagues well: one particular wrinkle with the current tech lay-offs is that they affect lots of immigrant workers, whose eligibility to remain in America is now in doubt. It means showing sensitivity about executive compensation: saying that downsizing is the hardest thing you've ever done is less credible when profit-related bonuses end up paying for another weekend house.

Fairness also means sharing the rationale for why individual people have gone, whether because they sat in sputtering businesses or because their own performance was questionable. "Stacked-ranking" systems, in which employees are forced into a ranking of highest to lowest performers, are increasingly out of favour. But in theory at least, they do provide a merit-based measure for decisions on where to make cuts. According to *The Information*, a news site, Google is going to increase the proportion of employees it identifies as low performers.



If decision-making about who gets the chop appears capricious, then managers will also fail to achieve their second goal: to assure survivors that they don't need to start looking for a new role, too. It matters that lay-offs do not become regular events. Research conducted at a large manufacturer in 2003 found that workers who had been exposed to repeated rounds of cuts felt less secure in their jobs and had greater intention to quit. In his memo in August, Evan Spiegel, Snap's boss, made a point of saying that a 20% reduction in the social-media firm's workforce should substantially reduce the risk of more axings.

The third area of focus is workload. Cutting headcount and asking the survivors to do more might seem like a marvellous idea in head office. Some bosses say so outright: Elon Musk, chopper-in-chief at Twitter, is open about his belief in long hours by small teams. But it is a risky approach, as likely to reduce job satisfaction as yield leaps in productivity. Downsizing has a greater chance of succeeding if the burden on remaining employees does not spike.

None of this is easy territory. Lay-offs are bound to leave scars. But managing the fallout is simpler if the employees who are left behind still trust their bosses to get the big things right. Many of the memos being fired off by tech leaders contain apologetic admissions that they expanded their workforces too fast as a result of the pandemic. The honesty is necessary but it can plant another doubt in survivors' minds: if they can foul up once, why not again?

Schumpeter | The impossible-to-replace CEO

Like many celebrity boomers, superstar bosses just can't leave the stage



YOU HAVE to hand it to Sir Elton John. Not only is he the only musician ever to have top-ten hit singles in Britain for six decades in a row. He is also a rare septuagenarian megastar who knows how to bow out in style. On November 20th at a relatively tender 75 years old, he performed what he said would be his last ever concert in America at Dodger Stadium in Los Angeles. One of the showstoppers was "Goodbye Yellow Brick Road", the theme song for graceful retirements. If only Disney, who live-streamed the event on Disney+, had been listening.

It wasn't, because shortly before the performance started, a bombshell landed. Its hospitality tent at the stadium was convulsed by the news that Bob Iger, the Walt Disney Company's own Rocket Man, was coming out of semi-retirement, aged 71, to retake control of the firm he left only 11 months previously, leaving Bob Chapek, his handpicked successor, out on his ear. It was startling. It shouldn't have been. After all, as Jeffrey Cole, a communications expert at USC Annenberg puts it, "Disney has had a 40-year succession problem". During his decade-and-a-half as CEO, Mr Iger postponed his retirement four times, elevating and nixing potential successors. His predecessor, Michael Eisner, expensively jettisoned possible replacements twice during his 21-year reign, before finally settling on Mr Iger. Disney's board has now given Mr Iger two years—a deadline unlikely to be set in stone—to have another go at finding a suitable heir.

Succession problems are not unique to Disney. In fact they plague corporate America, especially when departing CEOs achieve near mythical status—besides Mr Iger, recall GE's Jack Welch and Howard Schultz, Starbucks' barista-in-chief. Some high-profile CEOs cling onto power for so long that their companies appear to grow old with them: exhibit A is FedEx, the delivery firm whose founder Fred Smith stepped down as boss in June after 49 years in charge. There is a probationary air to some imperial handovers. Andy Jassy may have done all the right things to become the boss of Amazon, but there is little doubt that Jeff Bezos, the founder, would swoop back in if the e-commerce giant got into trouble. Then there are the leaders who have made their firms so iconoclastic that they are almost irreplaceable: think of Berkshire Hathaway's investment genius, Warren Buffett, or Elon Musk and his impossible-to-emulate greatest show on earth.

What makes it so hard to fill such oversized shoes? One clue comes from Mr Iger himself. It is hubris. In his memoir, "The Ride of a Lifetime", published in 2019, he acknowledges that all CEOs like to think that they are irreplaceable. Yet good leadership, he adds, demands the opposite. It is about bringing on a successor, identifying skills they need to develop and being honest with them when they are not ready for the next step. That is true. Yet what he doesn't admit is that grooming a replacement is psychologically tough. It brings leaders face-to-face with their own mortality. It brings up the vexing question of legacy. Tellingly, Mr Iger writes almost mournfully about the day in 2005 when Mr Eisner left Disney for the last time with no board seat, no consulting role—not even a farewell lunch thrown by his colleagues. "Now he was driving away knowing that his era was over," he wrote. "It's one of those moments, I imagine, when it's hard to know exactly who you are without this attachment and title and role that has defined you for so long." With such a bleak perception of corporate afterlife, it's no wonder Mr Iger was loth to let go.

In theory, that's where strong, independent board members should have come in. It's their job to handle succession planning. While the CEO has a responsibility to nurture layers of talent within the firm, it's up to the board to examine internal and external candidates and decide on a replacement. In practice, however, A-list bosses often dominate their boards. In Disney's case, the directors went as far as elevating Mr Iger to chairman in 2012 after his masterful acquisitions of Pixar and Marvel, two animated-film studios, sealed his status as monarch of the Magic Kingdom. When Mr Chapek took over as CEO in 2020, the board continued in Mr Iger's thrall. He remained executive chairman until the end of last year, reportedly still calling the shots in ways that undermined his successor's authority. In June, under Susan Arnold, a new chairman, the board unanimously extended Mr Chapek's contract, though by then his credibility was virtually shot. Five months later, the board sacked him. It could barely disguise its delight at having its more-beloved Bob back.

For all the corporate-governance fiascos, some comebacks work. Mr Iger's might. Jeffrey Sonnenfeld of the Yale School of Management likens his return to that of second-world-war generals such as Douglas MacArthur or George Patton, motivated more by restoring Disney's lustre than by personal ambition. The day after taking back control at Burbank, Mr Iger swiftly set out to dismantle the centralising strategy orchestrated by Mr Chapek, putting decision-making back in the hands of Disney's creators. Mr Sonnenfeld believes the returning boss already has "excellent" replacement candidates up his sleeve. If he does, he will be able to rectify the biggest mistake in a mostly blemish-free career.

When are you gonna come down?

Some high-profile successions work, too, most notably the transition at Apple, maker of the iPhone, from the late Steve Jobs to Tim Cook, and, indeed, Mr Iger's follow-on from Mr Eisner. In both cases, the new bosses succeeded first by not trashing their predecessors' legacies and second by articulating a strong vision for the future. Yet ultimately the most important thing may have been that their long-serving bosses, however celebrated, had by then left the stage. Long-standing financiers such as Jamie Dimon of JPMorgan Chase and Larry Fink of BlackRock; moguls, such as Rupert Murdoch, of News Corp; all should take note. Listen to Sir Elton's ode to life after superstardom—and learn. ■



Chinese capitalism

Xi's big bang

China's capital markets are complying with the Communist Party's vision

In a parallel universe CloudWalk might have raised hundreds of millions of dollars in Hong Kong or New York. The firm is one of the world's leading facial-recognition outfits: its technology can recognise people in milliseconds with astonishing accuracy. But modern geopolitics pushed it in another direction. America has imposed sanctions on the firm for alleged human-rights violations, owing to reputed links with China's military. So instead of listing on the NASDAQ in New York, CloudWalk chose Shanghai's STAR Market, a bourse set up in 2019 to attract China's rising tech companies. The company's share price is up by a fifth since its debut in May.

CloudWalk's listing is one of hundreds that have put Shanghai's STAR and Shenzhen's ChiNext, another tech-focused market, at the heart of global initial public offerings (IPOs) this year. Firms have raised $63bn on Chinese exchanges, compared with just $21bn in New York and $6bn in Hong Kong. The vast majority of proceeds has been raised by semiconductor makers, artificial-intelligence and business-software startups, robotics firms and other companies developing high-end technology. A flurry of smaller telecommunications firms have flocked to the Beijing Stock Exchange, which launched last year under the guidance of Xi Jinping, China's leader.

At first glance, this suggests Mr Xi's plan to match a burgeoning tech industry with effervescent capital markets—part of a grander effort to make China a leader in next-generation technologies—is proceeding to perfection. Look a little deeper, however, and the picture is murkier. State capital, or "guidance capital" in Communist Party parlance, is flooding into stockmarkets. Our analysis of the 38 largest IPOs in Chinese markets in the first three quarters this year, which together account for 242bn yuan ($34bn), or about 50% of cash raised, finds that state entities put up 22% of funding. A review of a similar sample of IPOs last year shows state capital providing a smaller 14%. The CloudWalk deal is typical. State investors, including the Shanghai city government, an arms manufacturer and local-government funds, stumped up more than 500m yuan for just under a third of the company's shares.

Although China's capital markets are increasingly directed by the Communist Party, the boom has other causes, too. Some observers see merely a surge in innovative firms meeting demand from fluid capital markets. Nicolas Aguzin, chief executive of the Hong Kong Stock Exchange, has called the flurry of tech IPOs a "big bang of finance". State media in China also highlight tensions with America. Several Chinese tech firms in addition to CloudWalk have been sanctioned. This year markets in New York have all but closed to Chinese companies (even if there are some signs the situation is starting to improve).

Meanwhile, China's regulatory regime has become more friendly. Not long ago, onerous reviews were required for new listings. This led to a backlog, sometimes ▸▸

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stretching to thousands of firms, and prevented private-equity investors from exiting investments. A new system, trialled in the STAR and ChiNext exchanges, is currently being rolled out to others. It is more in line with international standards, setting requirements for listings, but dropping the arduous inspections. Liquidity and stability have also improved. Over the past five years, reforms have encouraged the professionalisation of investment. Volatile retail trading has been reduced. All this fits with Mr Xi's publicly outlined vision for Chinese finance, in which markets are freer from meddling, operating more like ones in America.

Yet the rush of state money can hardly be ignored. Although some of the cash comes from insurers and pension funds, most comes from government-backed funds tasked with investing across public and private markets, often with a remit to support certain industries, such as semiconductor or industrial-robot makers. As Ngor Luong of the Centre for Security and Emerging Technology, a think-tank, notes, this money signals to other investors which firms are worthy of funding, meaning it carries additional weight.

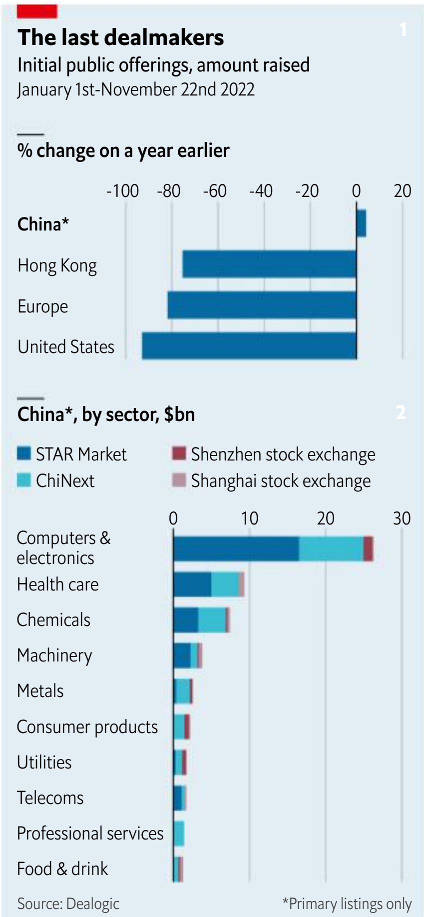
The use of state money to direct private investment is an approach that has spread from private to public markets. Between 2015 and 2021 government-backed private-equity outfits raised more than 7trn yuan. A company that takes state cash in its early stages becomes more attractive to private investors later on, since it indicates the firm fits with the official vision of innovation. These companies often benefit from other government help, including tax breaks, cheaper rents and less red tape. In the same way, securing state-backed investors in an IPO can now make or break deals. According to a banker working on Chinese IPOs, this means policymakers are increasingly successful at directing private capital to the industries they wish to prioritise.

Companies involved in technologies judged important by policymakers may now receive state capital throughout their life cycle. Take Loongson, a semiconductor firm in Beijing that designs central processing units. Most shares in the company are held by Hu Weiwu, its founder. But the firm was set up in 2008 with capital from the Chinese Academy of Sciences and the Beijing city government. State funds, including a semiconductor backer which has invested 200bn yuan, have subsidised Loongson in recent years, despite its privately owned status. When the firm went public on STAR this year, state investors piled in, buying at least 10% of the offering.

This sort of investment is not only about boosting favoured industries. Officials have been sending a message about the importance of state capital in the market for some time, notes Pan Fenghua of Beijing Normal University. Last year regulators began talking of a "disorderly expansion of capital" that supposedly had led to economic imbalances. Free-market capital has brought many ailments, argued a recent editorial in a state newspaper. These include a widening wealth gap, environmental problems, financial risks and monopolies. In a socialist market economy such as China's, the editorial states, capital must be guided by the Communist Party.

Because so many firms have taken state investment, investors must now either buy the Party plan or stay out, says an investment manager in Shanghai. Buying the Party's plan may be an unattractive proposition. Even before the government began to play a greater role, Chinese markets underperformed. Aside from a few rapid booms and busts, China's main stock indices have hardly gained in value over the past decade. Some 27% of companies that went public on STAR between 2019 and 2021 now trade below their IPO price. That figure rises to 44% among those that listed more recently, as state capital has poured into the market. On the Beijing Stock Exchange, Mr Xi's brainchild, it hits a dismal 60%.

Shanghai and Shenzhen may have become the leading global destination for tech IPOs, but they have done so with remarkably little global capital. Because of concerns about China's draconian covid-19 rules and faltering property market, foreign investors have been quitting the country in droves. According to the Institute of International Finance, a trade association, a net $7.6bn of international capital flowed out of the country's stockmarkets in October alone. Market booms in New York and Hong Kong typically draw smart capital from a wide range of global investors. In contrast, Mr Xi's big bang appears painfully insular. He believes the state can fill the role played by foreign financiers. It is, to say the least, a bold experiment. ■



Sanctions

Banking on them

Western officials need financiers' help to keep money flowing into Russia

WHEN WESTERN firms fled Russia after its invasion of Ukraine, banks and insurers joined the exodus. They feared prosecution in the criminal courts for sanctions violations and in the court of public opinion for filling Vladimir Putin's war chest. The West's economic shock-and-awe campaign has largely isolated Russia from the international financial system.

But recently Western officials have emphasised they want to see money flowing into parts of Russia's economy, and financial firms to enable this. On November 14th America, Britain and the EU issued a statement making clear that sanctions target Russia's war machine, not its food or fertiliser industries. Diplomats have reiterated the message in the days since, seeking to ensure sanctions do not work too well.

Western governments have a needle to thread. They want to starve Russia of war funds and prove their anti-Putin chops, but also to minimise collateral damage. "When you're ramping up sanctions, ambiguity is your best friend. It is your biggest enemy when trying to...calibrate them to the needs of the global economy," says Adam Smith of Gibson Dunn, a law firm.

The renewal of a grain deal between Russia and Ukraine, which allows food out of Ukrainian ports, explains the recent push. To get Moscow to sign, officials sought to show they were not blocking Russia's food and fertiliser exports, which comprise 14% and 18% of global volumes. America does not want "to impede the ability of developing countries" to buy these goods, says a State Department official.

The problem is that politicians and campaigners have not got the message. In September members of Congress excoriated the bosses of JPMorgan Chase and Citi-

bank, two American banks, for doing business with Russian oil and gas firms, despite guidance from the Treasury permitting it. As Juan Zarate, the architect of America's sanctions after the September 11th attacks, notes: "Corporate concerns regarding transparency, accountability and integrity have increased exponentially." ESG requirements only add to the burden.

Even before ESG, financiers were supremely reputation-conscious. They are also aware politics can shift. In 2016 John Kerry, then secretary of state, criss-crossed Europe to prod banks to do business in Iran after America had lifted sanctions. Bankers, spooked by Republican opposition, balked at the roadshow. This was wise: Donald Trump later reimposed sanctions.

So far Western efforts to keep cash flowing into Russian agriculture and parts of its energy sector appear to be working reasonably well. Officials have provided guidelines laying out exemptions. They also have been in touch with compliance teams about which industries remain fair game and have written "comfort letters" when required. Russian wheat exports are now almost back to normal levels, and global food prices are at a nine-month low.

But fertiliser costs remain high, meaning more reassurance will probably be needed in the future. Rebeca Grynspan of the UN's trade arm has warned that bankers' fears of "reputation risks" are still causing elevated export costs. On November 21st the Netherlands finally released 20,000 tonnes of Russian fertiliser that had been stuck in Rotterdam owing to sanctions-related confusion. It is an oddity of modern sanctions regimes that officials must spend time helping money flow into their enemy's economy. ■

Buttonwood Cryptzero

FTX's implosion has been brutal. Could crypto now collapse?

IF EVERYONE STOPPED using it. That, in five words, is how crypto would go to zero. Still, the journey is more interesting than the destination. The death of FTX, an exchange declared bankrupt on November 11th after a spectacular blow-up, will encourage some people to turn their attention elsewhere. What would have to happen for everyone to give up?

An answer requires a sense of how the industry works. At crypto's base are blockchains, like Bitcoin and Ethereum, which record transactions verified by computers, a process incentivised by the issuance of new tokens. The Ethereum blockchain validates lines of code, which has made it possible for people to issue their own tokens or build applications. These include stablecoins, which are pegged to real-world currencies, and tokens like Uniswap, which manage decentralised-finance (DeFi) protocols. Major chains and a handful of Ethereum-based tokens, like stablecoins, account for about 90% of cryptocurrency value. Big businesses have been built on top of this world, including exchanges, investment funds and lending platforms.

To take out crypto entirely would require killing the underlying blockchain layers. They could either give way first, kicking the stool out from underneath everything else. Or the industry could unravel from the top down, layer by layer like a knitted scarf.

Knocking the stool out is extraordinarily hard, and the current high value of bitcoin and ether makes it even harder. To attack a blockchain and shut it down requires gaining 51% control of the computational power or value of tokens staked to verify transactions. The more valuable the tokens, the more energy it takes to attack a proof-of-work chain, like Bitcoin, and the more money to attack a proof-of-stake chain, like Ethereum. The security of these chains—as measured by the amount someone would have to spend to attack them—is now in the region of $10bn to $15bn. It would require either a government or an extraordinarily rich individual to mount such an attack. And even if Elon Musk was so inclined, he seems a little busy at present.

Unravelling is therefore the more conceivable path. The events of this year have revealed just how prone to this sort of thing crypto is. The implosion that seems to have set the chaos in motion was that of Terra-Luna, a decentralised stablecoin system, worth around $40bn at its peak. It collapsed in May, wiping $200bn off the market capitalisation of crypto. That led a few weeks later to the demise of several lending platforms and a hedge fund, events which wiped another $200bn off the market cap. The margin calls these platforms faced appear to have imperilled Alameda, the trading firm owned by Sam Bankman-Fried, and prompted the decision to use FTX customer funds to plug the gap. When FTX failed, it wiped another



$200bn off crypto's market cap. Now other exchanges and lending platforms look to be in trouble.

Beady-eyed readers will note that most of this stuff, apart from Terra-Luna, is in the "on top of" category and not actually on-chain tech. DeFi exchanges and lending protocols have continued to whirr even as the enterprises more akin to normal businesses have imploded one by one. But the collapse of these enterprises could imperil the underlying tech by taking out chunks of its value, making the chains more exposed to would-be attackers and pushing miners or stakers to switch off their machines. The value of on-chain activity and tokens is self-reinforcing. The more people that use DeFi, the more valuable Ethereum becomes. The higher the price of ether, the higher the hurdle to attack the blockchain and the more confidence people will have that blockchains will endure. This also works in reverse. The more people shy away from crypto out of fear, the less secure it becomes.

The total market cap of cryptocurrencies is currently $820bn. That is 70% below the peak a year ago, but still high compared with most of crypto's history. It is higher than at the start of last year, for instance, and any point before then, including the peak of the bull market in 2017. Many more layers—such as a major stablecoin, big businesses or perhaps other on-chain protocols—would have to unravel to take crypto's value back to the levels at which it traded just three or four years ago. Crypto's reputation has been undermined before. It has collapsed in value repeatedly throughout its lifetime. Although fewer people will use crypto as a result of the FTX collapse, it is very hard to imagine the number will be small enough to take its value to zero.



The US economy

Hot like Minnesota

NORTHFIELD, MINNESOTA

Lessons from the tightest corner of America's ultra-tight labour market

An unemployment problem, as normally understood, occurs when lots of people cannot find work. Northfield, a city in Minnesota with a population of 20,000, exemplifies the troubles that arise at the opposite end of the spectrum: when unemployment is so low that lots of businesses and organisations cannot find workers. Along with Utah, Minnesota has the lowest unemployment rate of any state in America at 2.1%. And in Minnesota, Northfield has just about the lowest unemployment rate of any city, a mere 1.2%.

If an authoritarian regime were to report such a figure, it would elicit groans of disbelief. In Northfield the groans are of inconvenience. Police officers, teachers and factory workers are all in short supply. The local hospital needs nursing assistants and surgical technicians. The city's main retirement home has empty units but not enough employees, resulting in a long waiting list. Unable to hire enough servers, a popular restaurant closed this summer and a favourite café has slashed its hours. The local newspaper, meanwhile, just lost its one sports reporter, who took a better-paid job as a forklift operator.

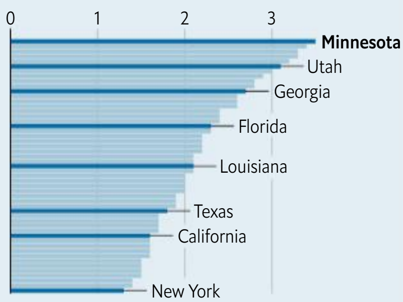
Minnesota, and this corner of it in particular, might sound like an outlier. They are, in fact, extreme cases of a dynamic now common throughout America. Nationally, there are nearly two job vacancies for every unemployed person, just shy of a record high hit a few months earlier. In Minnesota, the ratio is an eye-popping 3.5 vacancies per unemployed person, also just shy of a recent record and higher than any other state. Minnesota's ultra-tight labour market sheds light on three questions for the country as a whole. How did things get so overstretched? What are the consequences of this degree of tightness? And will balance ever be restored?

Employers big and small in Northfield, which is a picturesque settlement straddling a river, agree that the covid-19 pandemic was the dividing line. With about 700 employees, Post Consumer Brands, a cereal maker, is one of the biggest manufacturers in town. Before the pandemic struck, it regularly had a vacancy rate of 1% or less. Now the rate is more like 5%. At Minnesota Soulstice, a clothing boutique, the owner has been so short-staffed that at one point she had to personally work 18 straight days. Even when positions are filled, candidate numbers are way down. When the city advertised for a police job in 2017, it received 55 applications. In September it advertised for three positions and received 15 applications.

Vikings and vacancies

US, job vacancies per unemployed person

September 2022



Source: Bureau of Labour Statistics

Just as elsewhere in America, there is a litany of explanations for the shortfall of workers. Older residents left the labour force in 2020, preferring early retirement to the dangers and hassle of work at the height of the pandemic. Cancellation of school meant many parents, most often women, had to look after children. With two liberal-arts colleges in town, Northfield usually has lots of part-time student workers. But many are now less keen on off-campus jobs. Personal savings have soared over the past few years, owing to a combination of stimulus cheques and reduced spending on things like concerts and travel. This has given some students a useful financial buffer.

Sandwiched between Minnesota's biggest cities—Minneapolis and Rochester are an hour's drive in either direction—Northfield can tap into a big labour pool. But the pool is smaller than it was. In the early 2010s the state received more than 15,000 immigrants a year. Over the past five years inflows have slowed to a trickle, under the weight of pandemic border closures and Donald Trump's anti-immigration stance. Minnesota was also one of the states that lost residents to others parts of the country during covid. About 13,500 left between April 2020 and July 2021, many lured by opportunities in warmer climes. "It used to be that workers were out there and we just had to figure out how to recruit them into manufacturing," says Bob Kill, president of Enterprise Minnesota, a consultancy. "The difference this time is that the bodies don't exist to fill the jobs."

For those job hunting, the going is good. Not only is employment plentiful, but wages are increasing. Private-sector pay in Minnesota's main metropolitan cluster, which includes Northfield, rose 5.7% year-on-year in September in nominal terms, ranking third in the country. Firms have also become more attentive. Mr Kill says that the old manufacturing schedule of eight hours a day, five days a week is all but gone. Companies now let workers opt for four ten-hour days. At the Post factory, bosses recently encouraged a worker on the cusp of retirement to stay for two days a week—an arrangement rarely seen in the past. "We got to retain a very highly skilled person doing a job that we need fulfilled," says Henry Albers, a manager.

Employers have also succeeded in eking out slightly more output from their limited resources. This can be seen in Minnesota's statewide data. Overall, its labour ▸▸

force is 3% smaller compared with the eve of the pandemic, but its GDP is nearly 2% bigger. At the Post factory, the production lines churning out such delights as Marshmallow Fruity Pebbles have long been automated, with workers monitoring computer screens and fixing robots rather than doing heavy lifting. But there is always scope for more. Mr Albers hopes to use high-tech tools to cut training times for new employees. In schools, meanwhile, changes in licensing requirements have made it a little easier to recruit people without full qualifications. Northfield has its high-school kitchen manager leading the consumer-science course. "We would have never done that five years ago," says Matt Hillmann, superintendent of Northfield public schools.

At the state level, officials are also thinking about how to attract more workers. The Democrats swept Minnesota's elections earlier this month, holding onto its governorship and state house, and adding the state senate. This places them in a position to consider more ambitious legislation. One idea is to introduce publicly paid leave for illness and caring for family members—something no state in the Midwest offers. "This could be a differentiator, saying: 'Hey, if you work in Minnesota, we'll take care of you'," reckons Steve Grove, head of the state's economic-development department. The Democrats have also vowed to fund the construction of more affordable housing, a necessity for younger workers. Indeed, one reason Northfield's unemployment rate is lower than nearby areas is that, at an average price of about $350,000, its homes are expensive for a town of its size, making it hard to live there without a job.

Minnesota's labour market may be able to find balance in a few ways. Techno-optimists think a rise in automation will help firms get by with fewer workers. Some managers themselves are sceptical, noting that many processes are already automated. "You can't automate thinking," quips one manufacturing veteran. Northfield Hospital and Clinics, the leading healthcare provider for the area, has adopted a handful of labour-saving technologies, from automated screening at entrances to greater use of telemedicine. "These are all Johnny Appleseed techniques," says Steve Underdahl, president of Northfield Hospital and Clinics. In other words, it will take time to reap benefits.

Expanding the pool of workers would help. Perhaps Minnesota will succeed in enticing more Americans to its friendly, if occasionally frigid, embrace. Along with plenty of job vacancies, Northfield boasts an appealing motto. Who doesn't like "Cows, colleges and contentment"? If Minnesota is successful, however, it would export some of its labour headache to other parts of the country. More arrivals from abroad would be a much bigger help, but it is hard to imagine the floodgates opening, given the toxic national politics around immigration. And Minnesota, like much of America, faces a demographic crunch. "It's a math problem. We know that baby boomers are continuing to leave the workforce," says Mr Hillmann, the school superintendent. Five of the city's 25 police officers are set to retire in the next two years.

That leaves another, less pleasant solution: an economic slowdown that brings some slack back to the labour market. The Federal Reserve has jacked up interest rates. Virtually all economists think that slower growth is inevitable next year, though they debate whether it will amount to a recession. One critical variable is the extent to which companies are able to reduce their demand for new workers without firing existing ones.

As the tightest corner of the ultra-taut American labour market, Minnesota bears watching. Its unemployment rate has started to tick up, rising from 1.8% in June to 2.1% last month. It might seem perverse to call that good news, but one lesson from the past year is that excessively low unemployment really does hurt: it constrains and corrodes the services offered by hospitals, schools, restaurants and more. In Northfield there is at least one tiny hint that relief might be at hand. After a difficult dry spell, the HideAway, a downtown café, received four job applications over the past two weeks. From those it hired two sorely needed baristas. "We just got lucky," reckons Joan Spaulding, its owner. Or was it a new trend? ■

House prices

The coming crunch

Global property's goody-two-shoes are in trouble

A HOUSING CRASH sent the global economy into recession between 2007 and 2009. But three countries—Australia, Canada and Sweden—cruised through the commotion. Even as property prices plummeted elsewhere, all three recorded double-digit growth. Some of this was good fortune. A commodities boom propped up the economies of Australia and Canada, for instance. But smart policy helped. Each country was held up as a shining example to other crisis-stricken places, their officials effusively praised. Mark Carney, then Canada's central-bank governor, was dubbed by one British newspaper as the "biggest babe in banking".

Across the rich world, house prices are now starting to fall after years of vertiginous growth. And it is overheated markets, like those in Australia, Canada and Sweden, that are facing some of the sharpest drops. A mortgage binge fuelled by rock-bottom interest rates has left each country with enormous quantities of household debt. As a share of disposable income, such debt sits at 185% in Canada, 202% in Australia and 203% in Sweden. By contrast, debt levels have shrunk in countries that



Sturdy new-builds?

bore the brunt of the last crash, including America, Ireland and Spain (see chart).

Housing busts and recessions that are preceded by this sort of debt build-up tend to be more severe. Excessive leverage makes people more vulnerable to job losses, interest-rate rises and falling house prices, as was demonstrated by America during the Depression and the more recent financial crisis. With central banks now raising rates at the fastest pace in more than four decades, countries drowning in mortgage debt will once again be exposed to nasty consequences.

In Australia, Canada and Sweden home prices have more than doubled since 2007, compared with rises of 50% in Britain and 61% in American. High levels of immigration in all three countries mean that, since the turn of the millennium, population growth has exceeded the average in the OECD, a club of mostly rich countries. In Australia, the population has grown by a third; in Canada, by a quarter; in Sweden, by a sixth. Shrinking households are also pushing up prices. According to the Royal Bank of Canada, a rise in the number of people living alone or with smaller families has increased the number of households in Canada by around 30,000 a year since 2016. Nearly 30% of Canadians now live by themselves.

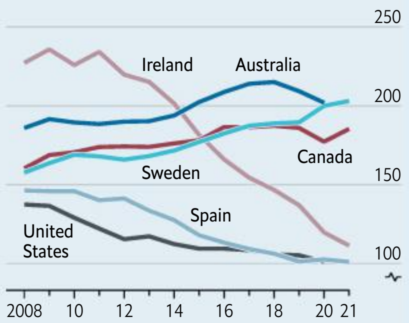
As a result of skyrocketing prices, Canadian households added a record C$190bn ($150bn) in new mortgage debt last year, more than double the amount in 2019. Meanwhile, Swedes took on an additional 370bn kronor ($40bn) of such debt in June, compared with the same month three years before. Easy credit has also attracted speculators, and inspired people to look for holiday homes. One in six homeowners in Ontario—which includes Toronto, Canada's most expensive market—now has at least two properties. One in five Swedes owns a summer cabin.

It is thus no surprise that the riskiness of loans has risen, despite efforts by lenders and regulators to tighten credit standards. Australia's financial regulator estimates that 22% of mortgages taken out in the second quarter of this year put the holder in a vulnerable financial position, based on them having a debt-to-income ratio of six or greater. In Canada, mortgages with a debt-to-income ratio of four-and-a-half times or greater—the measure Canada's central bank employs to assess risk—made up 27% of new mortgage lending at the start of this year. In Sweden, such loans rose to more than 14% of new mortgage lending in 2021. Stefan Ingves, governor of Sweden's central bank, has described this build up of debt as being "like sitting on top of a volcano".

Rising interest rates or falling property prices may prompt the volcano to explode. Australia's central bank forecasts a 20% fall in house prices, which would be the biggest decline in four decades. Prices in Canada could plunge by as much as 14% from their peak, according to the Royal Bank of Canada. Lots of the debt in the three countries is held by richer households and, for now, unemployment remains relatively low. But if job losses begin to mount, as seems likely, the situation could rapidly deteriorate. After the global financial crisis, Australia, Canada and Sweden were hailed as examples for countries the world over. This time round, they look rather more likely to serve as a cautionary tale. ■

Uh oh, Canada

Household debt, % of net disposable income



Source: OECD

European finance

Frightening tightening

Europe's central bankers are nervous about unwinding quantitative easing

Central banks are finally getting into the swing of quantitative tightening (QT). The Bank of Canada has shed a fifth of its balance-sheet this year. The Bank of England held its first gilt auction on November 1st. The Federal Reserve's balance-sheet shrank by $85bn in October, twice the size of the reduction three months earlier. But in Europe, where officials have flirted with QT for months, the European Central Bank (ECB) is yet to let go of a single bond.

The continent's central bankers have sent mixed messages about when QT will arrive. In September Christine Lagarde, the ECB's president, said details would be provided after the bank finished raising interest rates. At a meeting on October 27th the ECB promised to lay out "key principles" in December. Five days later, Joachim Nagel of the Bundesbank said that Germany expected QT in early 2023. Pablo Hernando de Cos of Spain's central bank sharply retorted that a longer wait was required.

QT is a nerve-racking experience for all central bankers. When buying bonds during quantitative easing (QE), policymakers were unsure about the impact of their growing balance-sheets. In reverse, the uncertainty is greater, particularly given the fragility of financial markets and the global economy. Experiments with QT have gone wrong in the past, as in 2019 when the Fed roiled the Treasury market.

And QT is particularly difficult for the ECB. Most central banks have bought just one government's debt. The ECB has 19 bond markets to worry about. One effect of QE is that it reduces the spread between the low borrowing costs of Germany and those of indebted economies like Italy. When inflation was low the ECB could pass this off as a side-effect of its stimulus. Now it is raising rates it must find other arguments in favour of containing spreads.

In parts of Europe's financial system, QT looks increasingly urgent. The continent's financial firms borrow and lend €11.5trn ($12trn) every year in its "repo" markets, in which the firms post bonds as collateral in return for short-term funding. The market is so big in part because policymakers encouraged its growth in the early days of the euro zone, hoping that German and Greek bonds would change hands on the same terms. This dream of a uniform repo market died during Europe's debt crisis a decade ago, when companies thought Irish and Portuguese bonds were so risky that they stopped swapping them altogether, ultimately widening spreads. But it has left legions of lightly regulated traders ravenous for German bunds.

Since 2015 the ECB has scooped up bonds, starving these traders of collateral. Recent rate rises have worsened the shortage. Higher rates push down bond prices. Because it is the value of bonds which matters when posting collateral, a given transaction now requires more bonds. The higher rates go, the worse the problem.

German bonds have become so scarce that traders betting on yields have bid up their price. In September yields on some short-term bonds, half of which are on the ECB's balance-sheet, fell 1.1 percentage points below interbank interest rates, to their lowest since the euro-zone crisis. Though high rates in Italy might mess with monetary policy, cheap borrowing in Germany could undermine the inflation fight.

The ECB's policymakers are thus caught in something of a bind. Rapid QT would release short-term German bunds from its balance-sheet, ease Europe's shortage of collateral and placate inflation hawks. But it would also threaten to widen spreads on long-term debt that—in a nightmare scenario like the euro-zone crisis—could be pushed still wider by traders turned off by risky peripheral collateral. Delaying QT protects the periphery. It does so at the cost of raising the financial stakes. ■

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ECONOMIST IMPACT



Progress and profit

How consumer companies will scale sustainability through collaboration

The twin challenges of scaling sustainability measures while maintaining stability across globally dispersed operations have compelled consumer-products and retail companies to reassess resilience and sustainability—not only in their own organisations but also in their wider ecosystems.

Consumer-products firms and retail companies are taking sustainability and climate change more seriously than ever before. However, as they seek to profitably help deliver a sustainable future, these companies are increasingly realising that they cannot scale their efforts on their own. At the same time, the lingering effects of covid-19, the war in Ukraine and fears of a global recession have brought the interconnectedness and interdependence of global trade companies into sharp focus. The twin challenges of scaling sustainability measures while maintaining stability across globally dispersed operations have compelled consumer-products and retail companies to reassess resilience and sustainability—not only in their own organisations but also in their wider ecosystems where they want to thrive. Companies are realising that to scale up sustainability measures and produce material change, they must collaborate meaningfully not only with their peers, competitors and supply-chain partners, but with policymakers, consumers and other players in the ecosystem.

Senior executives face strategic questions in establishing collaborative relationships and increasing their sustainability efforts. In what part of their operations are companies seeking the most collaboration? What is the current level of maturity of companies' collaboration with other entities in the ecosystem? What are the most significant challenges companies face when collaborating on sustainability? What critical measures are needed to enhance collaborative activities in the next three to five years? Using insights from interviews with corporate leaders and a survey of 400 senior executives from some of the world's largest consumer-products and retail companies, Economist Impact answers these questions and considers how consumer companies can maximise their potential for future collaboration.

Read the full study here

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Free exchange | Return of the rainmaker

Weather is again determining economic outcomes. Soon it will be even more important



"Now the rains had really come," writes Chinua Achebe, in "Things Fall Apart", a novel set in 19th-century Nigeria, "so heavy and persistent that even the village rainmaker no longer claimed to be able to intervene. He could not stop the rain now, just as he would not attempt to start it in the heart of the dry season, without serious danger to his own health." In agrarian economies, of the sort depicted in Achebe's novel, the economic cycle and weather move in tandem. When the rains arrive at the right time, the harvest is bountiful and prosperity follows. In contrast, drought brings the risk of starvation and death. The rainmaker—much like the modern-day central banker—may attempt to smooth out the business cycle, literally dampening things down when they get too hot. Ultimately, though, it is the power of nature that decides the outcome.

Europe's energy crisis has brought the return of weather-based economics. The crisis is a reminder that, for all their technological sophistication, even rich-world economies must rely on the munificence of nature. European economists, financiers and policymakers are watching forecasts closely: a balmy winter will bring relief, requiring less gas to be burned in order to keep houses warm. If temperatures are not too punishing, energy prices will fall and growth be given a boost. A frosty winter, on the other hand, will bring misery: pushing millions into poverty, increasing inflationary pressures and keeping industries shuttered.

Fossil fuels originally promised to free economies from the vagaries of the seasons. Instead of relying on ambient solar power—captured in grain, preserved in livestock or photosynthesised into biomass and then consumed as firewood—humanity could burn coal, releasing the prehistoric solar power contained within. The use of fossil fuels allowed energy to be stored, transported and released exactly when required. They placed the power of the sun at the beck and call of mankind, rather than the other way around.

Ann Kussmaul, an economic historian, tracked the spread of the Industrial Revolution through England by assessing when regions moved beyond seasonal economics. Parish marriage certificates measured the point at which fossil fuels freed workers from the rhythms of nature and instead tied them to the factory whistle. Before industrialisation, marriages in low-lying areas would often be in winter after the harvest was taken; in hilly areas, they would be during summer, once the lambing season had come to an end. After industrialisation, such regional and seasonal marriage patterns disappeared, providing a clue as to which parts of England first adopted fossil-fuel-based production techniques.

Hundred of years later, seasonality is returning to Britain and other parts of Europe, as the continent weans itself from Russian gas. Part of the reason for this return is physical. Natural gas is much harder to transport and store than coal or liquid oil. In the past, Europe benefited from abundant piped gas provided by Russia, as well as the option of top-ups of liquefied natural gas shipped from abroad. Now supplies are tight and Europeans must mostly rely on the shipped stuff. The continent's storage facilities are already more than 90% full, and filling the last bits of available space is expensive, since the contents must be kept under high pressure. Constrained supply means that changes in demand determine the price of energy—and the weather is the most uncertain determinant of demand.

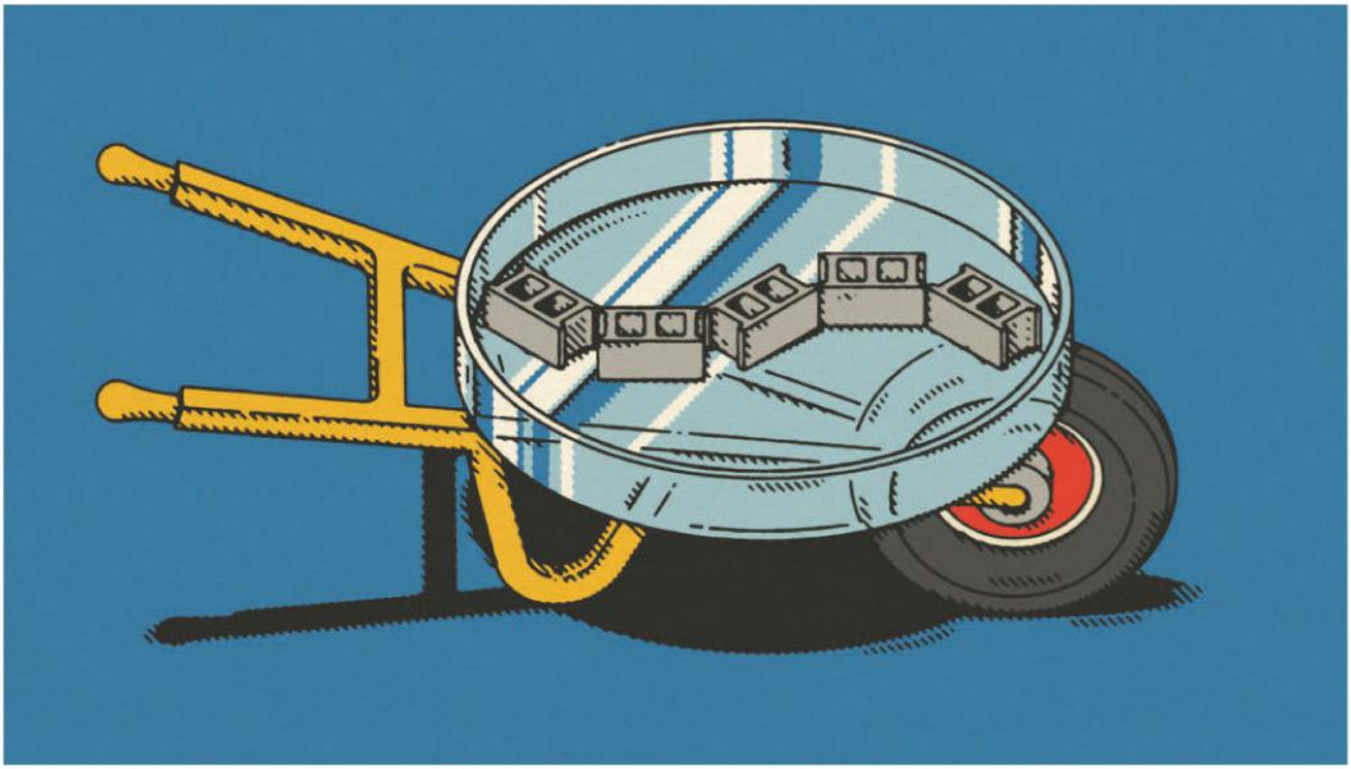
Autumn spared Europe the worst: the continent enjoyed the hottest October on record. As a result, the price for a unit of gas on the Dutch title transfer facility, which provides the benchmark for the continent, fell to around €100 per megawatt hour, half the rate in September. But now winter is starting to make itself felt. Germany's first snows have arrived. Historically there has been a relatively linear relationship between gas demand and the temperature: the colder it gets, the more gas is needed. This year things are a little more complicated. Home-heating systems have been left dormant for longer than usual. Blanket sales are on the rise. People are willing to wrap up warm to resist Vladimir Putin.

The gas crisis is not the only reason for a greater focus on the weather. Renewables now supply much more energy to Europe than even a few years ago, leading to problems if the wind does not blow or the sun does not shine. Indeed, hydropower has also been an issue for Europe this year, after a hot summer dried out the reservoirs and rivers on which dams depend. Improving and investing in ways to store electricity, whether batteries, hydrogen or other techniques, could in future smooth out such variability. The continent nonetheless faces years, or even decades, of nervously watching the skies as it adjusts.

Yet in the absence of a transition to green forms of energy the weather would begin to play an even bigger role in economics. A warmer planet is already leading to more frequent and extreme events, such as Europe's summer heatwaves or the devastating floods endured by Pakistan. These events amount to so-called real shocks to an economy: external changes that lower productive capacity, and so cause both higher inflation and unemployment.

Head in the clouds

This dual threat is harder for central bankers to deal with than downturns that arise from changes in business confidence or a financial crisis. Tighten policy too much in response and it will exacerbate the downturn; too little and inflation may get out of hand. According to analysis by the IMF of Pacific and Caribbean islands, natural-disaster-prone countries grow by around one percentage point less a year and have considerably higher debt stocks than those less at risk. Climate change will only exacerbate these differences. Thus a return to weather-dependent economics will leave some central bankers looking even more like rainmakers: attempting to perform the old rituals or demanding more sacrifices, without much capacity to affect the economic weather. ■



Green construction

Building with bacteria

FORT COLLINS, COLORADO

Conventional cement-making needs to be consigned to history. Some people are looking to micro-organisms to provide alternatives

CONCRETE IS ONE of the world's most important materials. But making the cement that binds it generates about 8% of anthropogenic carbon-dioxide emissions.

This is not just because of the heat involved. That could, in principle, be supplied in environmentally friendly ways. It is, rather, embedded in the very chemistry of the process. The heat is applied to limestone, to break up its principal constituent, calcium carbonate, into calcium oxide (cement's crucial ingredient) and CO_2.

In a warming world, this CO_2 should be disposed of in a manner which keeps it out of the atmosphere. That is tricky. Better, then, not to generate it in the first place, by remodelling the way the aggregates that are concrete's other ingredient are bound together. Intriguingly, this may be an area where microbes can come to the rescue.

One proposal, literally as well as metaphorically green, is to recruit the services of chlorophyll-laden, photosynthesising organisms called cyanobacteria. That has allowed Prometheus Materials, a firm in Colorado, to develop a cement-making process in which the energy comes not from heat but light—something easily generated from electricity that has, in turn, been provided by renewable sources. Moreover, and perhaps more importantly, photosynthesis subtracts CO_2 from the atmosphere rather than adding it.

Grow-your-own concrete

Prometheus raises its bacteria in water-filled "bioreactors" surrounded by light-emitting diodes, to allow the bugs to photosynthesise. The water contains inorganic nutrients the bacteria need, and is perfused by streams of air bubbles which provide the CO_2. It also has calcium ions dissolved in it—for the purpose of the exercise is to encourage the bacteria to generate from the ingredients provided crystals of calcium carbonate a few microns across—a process called biomineralisation.

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The number of bacteria in the bioreactors would double every four to six hours if permitted to do so. Instead, quantities of them are transferred regularly to another tank. Here, they are plied with a proprietary stimulant that accelerates biomineralisation and then allowed to sit for an hour or so to mature. When the crystal-rich gloop that results is mixed with an aggregate, the product is "bioconcrete".

Bioconcrete actually comes in many varieties, depending on the aggregate employed. For the moment, Prometheus is pinning its hopes on mixing the gloop with sand, together with a so-called hydrogel (think jelly deserts for children's parties, only more industrial), which further helps to bind the sand grains together.

To reduce the space between the grains in the mixture, and thereby strengthen the resulting material, the company first pours the mix into casts that will shape it into breeze blocks, and then uses machinery which compresses and, for about ten seconds, "vibrates the heck out of it", says Loren Burnett, Prometheus's boss. The resulting blocks then take about eight days to cure, compared with 28 days for conventionally produced breeze blocks.

Prometheus says making concrete this way emits a tenth of the CO_2 generated by conventional concrete-making. Mr Burnett hopes that will permit the firm to charge a "green premium"—because one thing which the new blocks are not, is ▸▸

cheaper than the conventional variety. He will not, though, be relying on the construction industry's goodwill for this to happen. Many jurisdictions, including the states of California, Oregon and Washington, are bringing forward regulations that will favour "reduced-carbon" concrete.

How much the premium will need to be to permit a profit is not yet clear, but it should be once Prometheus has shifted production from its laboratory to a pilot manufacturing facility nearby—a move it expects to complete early next year. That said, the firm does hope to bring costs down eventually to a point where it competes with conventional cement-makers on price as well.

One unknown is how permeable to water the new material will prove. But the stuff is certainly strong. Recent batches have withstood pressures of 380kg per square centimetre—more than some conventional concretes can tolerate. Sales of breeze blocks, and also of bricks for sound barriers to dampen traffic noise (an application based on the belief that the hydrogel will dissipate sound better than conventional concrete) should start early next year. Bringing precast bridge segments to market will take a bit longer, as more rigorous certification is involved.

Prometheus says its new plant will be able to turn out nearly 21,000 breeze blocks a month. But, because shipping heavy products long distances is expensive, it is also working on a process that air-dries both the bacteria and the crystals. The idea, says Mr Burnett, is to produce a "just-add-water" biocement mixture that would be lighter than a conventional cement mix, and could thus be shipped more cheaply.

Building on organic growth

Another biocement firm, Biomason, of Research Triangle Park in North Carolina, uses a similar approach, except that its bacteria, *Sporosarcina pasteurii*, do not photosynthesise, so have to be fed organic nutrients, in the form of sugar and amino acids, as well as inorganic ones. According to Ginger Krieg Dosier, the firm's boss, the result is better than conventional cement at binding fine particles together. This lets Biomason substitute things like mine tailings for part of the sand that would otherwise be used. Biomason's first products are wall and floor tiles branded "Biolith".

Applications for biocement extend beyond conventional construction, too. America's Department of Defence, for one, has shown interest. Its aim is to be able to build things in remote areas without having to hump in cement and other materials. That would be doubly valuable if the territory through which the humping would otherwise be happening were hostile. Indeed, it was the defence department that catalysed the formation of Prometheus, by awarding the team at the University of Colorado which later founded the firm a grant of $1.8m back in 2017.

The department is also, in the guise of the Defence Advanced Research Projects Agency (DARPA) and the Air Force Research Laboratory, collaborating with Biomason to develop biocement sprays that can turn sand or loose soil into runways. Michael Dosier, Biomason's chief technologist (and the boss's husband), says the hardening involved could require less than 72 hours.

Even wilder uses are on the cards. In a talk given in August to DARPA Forward, a technology conference in Fort Collins, Colorado, Kathleen Hicks, America's deputy secretary of defence, outlined a goal that is literally out of this world: an ability to spray a bacterial liquid on lunar or Martian regolith, in order to "grow a landing pad".

Back on Earth, biocements are already being used to consolidate loose ground for reasons other than runway-making. Some concocted in Singapore by researchers at Nanyang Technological University (NTU) are intended to slow coastal erosion.

To do this, NTU's civil and environmental engineering department is formulating recipes that mix seawater, calcium chloride, urea and an enzyme from soyabeans. For some batches, the calcium chloride and urea have been successfully substituted, respectively, by carbide sludge, an industrial waste, and human urine.

NTU's biocements are conveniently watery and, once set in concrete as it were, colourless. This means, says Chu Jian, the department's chairman, that, "you just need to pour the solution on top of the beach". Singapore's National Parks Board is testing NTU's biocements at two beaches that are being worn away by the waves—one fringing the island state's south coast, the other in a group of offshore islets.

Filling in the cracks

Another ingenious bacterial concoction intended for the construction industry is produced by Basilisk, a firm in the Netherlands. In 2017 it launched a product that heals cracks in concrete.

Basilisk Healing Agent consists of tiny pellets that hold dried spores from a range of bacteria belonging to the genera *Planococcus*, *Bacillus* and *Sporosarcina*, together with nutrients including polylactic acid. Construction workers pour the pellets into conventional cement when mixing it with water and aggregate. The high alkalinity of uncured cement stops the moisture activating the spores. That alkalinity drops, however, as the concrete cures. This means



The latest news from Mars

The hill in the distance, 50 metres high and known as Santa Cruz, is thought to be the remnant of an ancient river delta. The rounded boulders lying in front of it are a type named Ch'ał (a Navajo word for frog), and contain pyroxenes. These are minerals made from silicon, oxygen, aluminium and a smattering of calcium, sodium, iron, magnesium and other metals. The image itself was taken by Mastcam-Z, an instrument on NASA's Mars rover, *Perseverance*, near its landing site in Jezero crater. It was released this week as part of a trio of papers that detail the mission's most comprehensive geological investigations yet. For more than 20 months, *Perseverance* has trundled around the Martian surface and, with its suite of spectrometers and cameras, has analysed the regolith and rocks in its immediate vicinity. If microbial life ever did exist on Mars, there could be clues to its nature hidden in the geology (or, strictly speaking, areology) of the regolith lying around in Jezero today.

that, if a crack appears and water gets in, the spores in the embedded pellets are primed to spring into action and generate calcium carbonate. This fills in fissures up to a millimetre across, nipping potentially dangerous cracks in the bud.

Not only does that lower maintenance costs, it also means the concrete concerned need contain less reinforcing steel, since the quantity of such "rebar" used in conventional concrete anticipates the extra strength which will be needed as cracks inevitably form. A cubic metre of typical concrete thus requires 100-120kg of rebar, at a cost of around a dollar a kilogram. According to Bart van der Woerd, Basilisk's boss, adding 5kg of Basilisk's pellets can halve that requirement for some projects, and will set you back only €37 ($37).

Not only does that save money, it also saves CO_2 emissions—because making steel from iron ore is another process that releases this gas for fundamental-chemical rather than mere energy-generating reasons. (The ore is iron oxide, and the oxygen is plucked from this to leave metallic iron by its reaction with the carbon in coke.) Less steel equals less CO_2. Sometimes then, and luckily, it is the road to heaven, not that to hell, which is paved with good intentions. ■

AI and Diplomacy

Trust no one

AI outplays most humans in a game of negotiation and double-dealing

BACKGAMMON WAS an easy win. Chess, harder. Go, harder still. But for some aficionados it is only now that artificial intelligence (AI) can truly say it has joined the game-playing club—for it has proved it can routinely beat humans at Diplomacy.

For those unfamiliar with the game, its board is a map of Europe just before the first world war (except that, for no readily apparent reason, Montenegro is missing). Participants, seven ideally, each take on the role of one of the Great Powers: Austria, England, France, Germany, Italy, Russia and Turkey. Each has armies and navies, and geographically based resources to support them, and can use its forces to capture the territory of neighbours, thus gaining the means to raise more forces while depriving others of the same.

The trick is that, at least at the beginning, players will get nowhere without making agreements to collaborate—yet they are not bound by the game's rules to keep to these agreements. Only when orders for the movement of troops and vessels, which have to be written down, are revealed, does a player discover who really is a friend, or an enemy.

Cicero, a program devised by a group of Mark Zuckerberg's employees who dub themselves the Meta Fundamental AI Research Diplomacy Team, proved an adept pupil. As the team describe in *Science*, when they entered their creation into an online Diplomacy league, in which it played 40 games, it emerged as one of the top 10% of players—and no one rumbled that it was not human.

In all past AI game-playing projects the program has learned by reinforcement. Playing repeatedly against itself or another version of itself, it acts first at random, then more selectively. Eventually, it learns how to achieve the desired goal. Cicero was taught this way, too. But that was only part of its training. Besides having the reasoning to plan a winning strategy, a successful Diplomacy player must also possess the communicative ability to implement it.

The Meta team's crucial contribution was therefore to augment reinforcement learning with natural-language processing. Large language models, trained on vast amounts of data to predict deleted words, have an uncanny ability to mimic the patterns of real language and say things that humans might. For Cicero, the team started with a pre-trained model with a baseline understanding of language, and fine-tuned this on dialogues from more than 40,000 past games, to teach it Diplomacy-specific patterns of speech.

To play the game, Cicero looks at the board, remembers past moves and makes an educated guess as to what everyone else will want to do next. Then it tries to work out what makes sense for its own move, by choosing different goals, simulating what might happen, and also simulating how all the other players will react to that.

Once it has come up with a move, it must work out what words to say to the others. To that end, the language model spits out possible messages, throws away the bad ideas and anything that is actual gobbledygook, and chooses the ones, appropriate to the recipients concerned, that its experience and algorithms suggest will most persuasively further its agenda.

Cicero, then, can negotiate, convince, co-operate and compete. Seasoned Diplomacy players will, though, want to know something else: has it learned how to stab? Stabbing—saying one thing and doing another (especially, attacking a current ally) is seen by many as Diplomacy's defining feature. But, though Cicero did, "strategically withhold information from players in gameplay", it did not actually stab any of its opponents. Perhaps it was this final lack of Machiavellian ruthlessness which explains why it was only in the top 10%, and not *victor ludorum*. ■



Fishing

Antibait

An electrical device on a fishing line repels sharks and rays

LONGLINES, BEARING hundreds, sometimes thousands, of baited hooks, catch commercially valuable fish. But they also catch sharks and rays, turtles and birds. This harms ecosystems. And removing the unwanted creatures takes time, can be dangerous, and may damage the gear.

The size of the world's bycatch, as such unwanted captures are called, is hard to measure. The fishing industry is huge, and much activity is unreported, unregulated and sometimes illegal. But a pertinent study published last year in *Frontiers in Marine Science* estimated that only half of the animals hooked by a longlining fleet in the Pacific Ocean near Palau were tuna (the intended target). The rest were bycatch.

Sharks and rays, known collectively as elasmobranchs, seem particularly vulnerable. Some are sought deliberately, but a lot die as bycatch. Since 1970, numbers have crashed by more than 70%, according to a paper, also published last year, in *Nature*.

Part of the answer to that might be to discourage elasmobranchs from taking the bait without simultaneously discouraging target species such as tuna. Research carried out recently by a group at Exeter University, in England, suggests a small British company called FishTek Marine may have devised a way of doing just that.

The work in question, just published in *Current Biology* by Phillip Doherty and his colleagues, tested small cylindrical devices the company calls SharkGuards, which fit

just above the hooks on long lines. Every two seconds they generate a strong electrical pulse. Elasmobranchs detect these via organs called the ampullae of Lorenzini, which are jelly-filled receptors scattered around their noses and mouths that serve to sense the electrical fields generated by potential prey's muscles. If, however, its ampullae are overstimulated by a strong enough field, a shark is repelled, rather than attracted.

The team tested FishTek's device in 2021 on two fishing boats in southern France. They put SharkGuards on half of the 900 hooks of each of 22 longlines deployed by these vessels, while leaving the other half as per normal. The hooks were sufficiently far apart on the lines that a device emitting a burst from one would not, they hoped, interfere with its neighbour. Then, once the lines had done their stuff, they analysed the resulting catches.

Line dancing

The results were impressive. Of the two predominant local elasmobranchs, hooks fitted with SharkGuards caught 91% fewer blue sharks and 71% fewer stingrays (pictured on previous page) than did those without one. Why the device works better on blue sharks than stingrays Dr Doherty is not sure. One possibility he offers is that blue sharks have more ampullae of Lorenzini on their big, pointy noses than do stingrays on their smaller, less protuberant ones. This might make them more sensitive and therefore more easily repelled than stingrays.

There was a wrinkle, which was that the number of tuna caught during the trials was unseasonably low. This was true both for test hooks and for controls, suggesting other factors were at play—but a second experiment comparing entire lines that were guarded and unguarded would be needed to prove the point securely.

Assuming that point is, indeed, proved, SharkGuards may offer a solution to the problem of elasmobranch bycatch. They should be cheap. The firm proposes to charge £8.50 ($10) a pop for a device that will last three to five years. And they are easy to recharge, since they do not have to be plugged in individually. Instead, if a line carrying them is coiled up and thrown into a specially designed bin, they can be charged up, en masse, by induction.

One small trial does not, of course, a summer make. There will need to be others, in other stretches of water, with different elasmobranchs at risk. And there remains the question of the low tuna take in this experiment. But if those further trials do prove the point, then this approach may prove a good way of cutting the number of sharks and rays dying uselessly because they have been caught by lines set for other species. ■

Numismatics

A new Roman "emperor"

Analysis of a coin suggests a name is missing from imperial Rome's annals

Time and chance may erase all trace of even those who have been great in their day. And there were many opportunities for greatness, albeit fleeting, in the Roman empire of the third century AD. Between the reigns of Septimius Severus, who died in 211, and Diocletian, who came to power in 284, 33 men are known to have had their claim to rule—and with that, the title "Imperator"—recognised by the Senate of Rome. On top of those, a further 18 individuals (one was a woman) awarded themselves this title, set themselves up as local rulers, and coined money to prove the point, without engaging in the dangerous business of marching on the capital itself.

Or was it 19? In 1713 a hoard of gold and silver coins was allegedly found in Transylvania—now in Romania, then part of Habsburg-ruled Hungary, and also overlapping what was once Dacia, a province of the Roman empire. Many bore portraits of well-attested emperors, Gordian III and Philip the Arab (or possibly his son, Philip II). Some, however, carried a likeness of one "Sponsian", a man otherwise unknown to history, who nevertheless claimed in the coins' legends to be "IMP", as well.



Forgotten, but not gone

All the recorded coins from the hoard, which has been dispersed among many collections and from which several items have been lost, were crudely made. Some experts have thus written them off as forgeries intended to exploit the 18th-century fashion for cabinets of curiosities. One such cabinet, assembled by William Hunter, a Scottish surgeon, went on to form the nucleus of the Hunterian Museum, in Glasgow University. It held four representatives of the Transylvanian hoard—including a Sponsian aureus (pictured).

Forgery or not? Paul Pearson of University College, London and four colleagues from Glasgow, took on the case. They examined the coin microscopically in visible and ultraviolet light. They scanned its surface with electrons. And they also subjected it to a technique called reflection-mode Fourier-transform infrared spectroscopy.

As they report in *PLOS ONE*, their conclusion, from the random pattern of the scratches on it, was that this was an object which had indeed been in circulation, rather than something decked up to look worn by a forger. From infrared spectroscopy of minerals deposited on its surface they determined that, yes, it had been buried at some point. But from another spectroscopic analysis, based on the electrons, they showed that its gold was an impure alloy, in contrast to the near 24-carat version of the metal used for coins made in Rome. Also, unlike coins from the established Imperial mint, it was cast, not struck.

Given that the other Hunterian specimens from the hoard, which bear images of whichever Philip it was, and Gordian, proved likewise worn, impure and cast, all were probably part of an off-the-books operation trying to keep money in circulation, using imperfectly refined metal from a local gold mine (of which Dacia boasted several, including what was then Europe's largest), in difficult times—so difficult that their being buried for safe keeping by a nervous owner is perfectly plausible.

These findings, plus the fact that it would have been impossible for a forger to know that Sponsian was a real Roman name, because the only other record of its use is on a funerary inscription discovered in the 1720s, strongly suggests the coin is not a forgery. A forger might well have made a name up, to add mystery. But to have imagined one which subsequently turned out to be real stretches coincidence.

Sponsian, then, was probably a general in Dacia who may have wanted the imperial purple, or been pushed by his troops into wanting it (for they would have done well, too, had he succeeded), but more probably sought only to rule locally. He certainly never made it to supreme power in Rome, or even into the history books. But the Hunterian aureus is enough to memorialise his existence. ■



Understanding Tokyo

Tales of the megacity

TOKYO

Can the charms of Japan's capital be replicated elsewhere?

THE REAL Tokyo, as any denizen of the world's most populous metropolis knows, is found in the smallest of spaces. Japan's capital is not a city of grand arterial boulevards. Its lifeblood flows instead through tangles of narrow alleys, up the stairs of slim buildings and into tiny shops and cramped eateries.

Take Nonbei Yokocho, or Drunkard's Alley, a charmingly defiant cluster of watering holes in the shadow of Shibuya railway station. The average size of the 38 establishments is just under five square metres, notes "Emergent Tokyo", a new book by Jorge Almazán, an architect, and his colleagues at Keio University. They nominate Tokyo as a model of a liveable megacity and explore its workings—and in so doing show how perceptions of it have evolved.

For much of its modern history, it was "the world city that everyone loved to knock", observes Paul Waley, author of several books on it. Tokyo did not conform to traditional notions, Western or Chinese, of how a city should look, feel and function. In place of neat street grids that signal order and authority, it had a patchwork of meandering neighbourhoods. Disasters left little in the way of visible heritage. There is no overarching style or sense of monumentality. Visitors have often been baffled and underwhelmed: in the late 19th century Isabella Bird, a British traveller, dismissed Tokyo as "a city of 'magnificent distances' without magnificence".

Edo, as Tokyo was first known, grew only when the Tokugawa shoguns chose it as their seat of power after consolidating control of Japan at the start of the 17th century. Some areas expanded along Chinese-style grids and others according to the topography of the land. They interlocked with one another in a kind of calculated incoherence, much like "a patchwork quilt", writes Timon Screech in "Tokyo Before Tokyo", published in 2020.

Though Kyoto remained home to the imperial family, and was thus the official capital, Edo soon became pre-eminent. By the early 1720s it had a million inhabitants and was the world's largest city. Culture flourished, despite the earthquakes and fires that periodically struck. After the Meiji restoration brought an end to the Tokugawa shogunate and opened Japan to the world in 1868, the emperor moved to Edo. It was renamed Tokyo—literally, "The Eastern Capital".

Industrialisation and Western influence began to transform it. Grand Haussmann-esque plans for reconstruction were discussed but never realised, not even after the Great Kanto Earthquake of 1923 flattened the city. After the second world war, when American firebombing razed Tokyo again, planners tried to impose order, erecting hulking concrete expressways over the canals that had earned Edo comparisons to Venice. Yet the planners' reach was limited, and much of the rebuilding happened haphazardly, from the bottom up.

As Tokyo thrived in the post-war era, so did interest in its past, producing a boom in so-called *Edo-Tokyo Gaku*, or Edo-Tokyo Studies. In "Tokyo: A Spatial Anthropology", a seminal book published in 1985, Jinnai Hidenobu, an urban historian, argued ▸▸

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that the rhythms of the Edo era had endured, even if the individual buildings had vanished. "There was no clear logical system in Edo that would bring a variety of elements together into a single whole as in a European city," he wrote. Rather, "like a mosaic or a kaleidoscope", the metropolis "sparkled with myriad different images created by the particularity of individual locales, their terrain and their histories".

The virtues of disorder

As, across the world, Modernist ideals of unity and clarity gave way to a post-modern embrace of disorder, Tokyo's kaleidoscope came to be regarded differently. Its hectic neon streets began to look like a vision of the future. All the same, its admirers often fell back on a kind of cultural essentialism, attributing Tokyo's magic to uniquely Japanese conditions. There might be plenty in the city to envy, but it seemed there was little point in trying to emulate it.

In the 21st century the city has become a source of insights for urbanists and architects elsewhere. Tokyo today is unusually liveable—safe, clean, functional and vibrant—for a megacity of its size: 37m in its greater metropolitan area, including 14m people in the central wards. World-class infrastructure stitches together neighbourhoods that retain the intimate qualities of smaller communities.

Contemporary observers tend to focus on the advantages of Japan's relatively permissive zoning laws. Those support the theories of Jane Jacobs, a mid-20th-century American writer who challenged the orthodoxy that cities should be organised by function. As André Sorenson notes in "The Making of Urban Japan", Tokyo shows how dense, mixed-use neighbourhoods can enliven a city. Many of its best bits were the least planned.

"Emergent Tokyo" is a valuable addition to what it calls "Tokyology". Mr Almazán and his team use a mix of number-crunching, shoe-leather reporting and lush images to explain how and why the city works. Municipal data help illuminate recurring features, from the teeming *yokocho* alleyways to the neon-signed buildings known as *zakkyo*. The authors attribute Tokyo's success to prosaic policy choices rather than an abstract national essence. The eclectic façades of the *zakkyo*, for example, result not from a Japanese disregard for exteriors, as commentators once argued, but the fact that ordinances apply to each building independently. Owners are not required to blend in with other buildings, as is often the case in Western cities.

Within this looser framework, says Mr Almazán, Tokyo's most characteristic elements generally "emerge" organically rather than being imposed from above, as owners and designers respond to the decisions of their neighbours, much as a flock of birds finds its shape. *Yokocho*, for example, grew out of the black-market street stalls that proliferated immediately after the war. After being granted land rights, owners banded together to protect themselves as developers encroached.

In Nonbei Yokocho the valuable land under the bars is held collectively and managed through a trust. The fragmented ownership and low overhead costs help facilitate economies not of scale, but of agglomeration, with rows of idiosyncratic spaces that feel personal, informal and intimate. Despite their small size, the bars offer plenty to drink—and plenty for other cities to ponder. ■

Repression in Iran

House of horrors

White Torture. By Narges Mohammadi. Translated by Amir Rezanezhad. *Oneworld Publications; 272 pages; $30 and £20*

THE SOLITARY cell in which the shah's torturers incarcerated Iran's future supreme leader, Ali Khamenei, for eight months in 1974 was 2.4 metres long by 1.6 metres wide. A thin strip of sunlight pierced his confines for a few minutes a day. The interrogation room lined with hooks for whips was along the corridor. "There were loud shouts, without exception," he once recalled. Sometimes they were his. The experience might have induced a revulsion of torture. Sadly, too often, the abused become abusers.

The testimonies of 14 women collected in "White Torture" read like a charge sheet against the Islamic Republic of Iran. They were recorded by one of the victims, Narges Mohammadi, in Ward 209, the block in the huge Evin prison in Tehran where the Ministry of Intelligence interrogates women. Nazanin Zaghari-Radcliffe, a dual-national former inmate who returned to Britain in March, is among the contributors.

Compared with them, Mr Khamenei had it rather good. His victims have no sunlight. Naked bulbs shine round the clock, obliterating night and day. Toilets double as wash basins in cells that are smaller than his. Several are blocked. The stench induces asthma. Mahvash Shahriari, a leader of the Bahai faith, says hers was full of beetles, dead and alive.

The women miss inconsequential things the most: falling autumn leaves, the feeling of a breeze. When a butterfly settles on the floor, "I talked to it as if it were a dear friend," says Sedigheh Moradi, who was repeatedly flogged on the soles of her feet.

Some were beaten during their arrests or awaiting transfer at other prisons. But it is the dark art of "white", or psychological, torture in which the Ministry of Intelligence excels. Interrogators crush subjects by suspending their sensory perceptions. After weeks, months or a year in solitary confinement, in a cell like a "sealed tin", even talking to an interrogator can be welcome. Then the inquisition begins—sometimes lasting 17 hours a day for a month.

The power of the interrogators is absolute. They determine not just whether their subjects and their relatives live or die, but how. Conditions are minutely calibrated according to the extent of co-operation. The subjects may be questioned while blindfolded, facing a wall or beneath a dangling rope. Interrogators can withhold family visits, newspapers, books, pens and ▸▸



Facing down the inquisitors

soap—or, if they choose, facilitate them.

They invent sentences of execution and drop them. They mention in passing that husbands are tired of waiting and are having affairs. They give dolls to children when they visit. He—and it is always a he—"insinuates that he is the only one who can save you", says Marzieh Amiri, a journalist sentenced to a decade of imprisonment and 148 lashes for lesbianism. And yet "he is the one who can lead you to the abyss of destruction." There is no access to lawyers.

The inquisitors pry into sex lives "over and over again". One puts the Iranian equivalent of dollar bills on his subject's breasts. Another professes his love, stroking her chador-covered head. Many women fear their interrogators will use the footage from the cameras in the bathrooms. Peering into a mirror for the first time in months, an inmate turns to see who is standing next to her, before realising she is looking at herself.

Much of the testimony smacks of the Spanish Inquisition. The interrogators wield Islam like a weapon. They accuse the women of deviant beliefs or sex lives. Some are charged with *moharebeh*, the capital offence of waging war on God, others with "insulting the sacred".

Despite it all, the women are indomitable. "In solitary confinement it's only your mind that works," says Atena Daemi, a children's rights activist. As a result it goes into overdrive. The prisoners instil order in their days. They read voraciously—the Koran or the scrawls on the walls if nothing else is available. And they exercise: one woman estimates she walks 7km round her two-metre cell every day. For many incarceration becomes a deeply spiritual experience. "I felt like I was in a monastery," says another Bahai leader. "These moments were inexpressibly magnificent." Another woman quotes Nietzsche: "What doesn't kill you makes you stronger."

Their resolve helps explain the current rebellion against Iran's clerical-led patriarchy. As well as their testimonies, the women have shared survival techniques and a programme of action. Alumnae speak of Evin as a university. Inside, they staged sit-ins and withstood electrocution by cattle-prods. Prevented from making phone calls, they went on hunger strike. Ms Mohammadi compiled the book on home leave despite knowing that would mean a fresh sentence of six years and 74 lashes. "I don't know why it's so hard to interrogate girls," says a captor, "and why they constantly quarrel with their interrogators."

Fortunately for future prosecutors, this book is full of inquisitors' names. Should the ayatollahs and their bully-boys fall, it will surely form part of the case against them. And, as it did for Mr Khamenei, the torment of Iran's prisons might yet propel their inmates to power. ■

The history of measurement

Metre made

Beyond Measure. By James Vincent. *W. W. Norton; 432 pages; $32.50. Faber & Faber; £18.99*

IMAGINE A PRISONER in a cell, tabulating time served. Those groups of four lines crossed with a diagonal fifth have a long history. It stretches back to the Wolf Bone, found in what is now the Czech Republic and dating to 33,000 years ago. Forever lost is what its notches, grouped in fives, actually marked. But it is an early example of an artefact from nature, abstracted from experience, whose only value was as an etched tally. In other words, it is a measurement.

This interplay between measuring, nature and abstraction is part of the human story. For centuries bodies themselves gave birth to units: thumb-joint inches, arm-span fathoms and foot-long feet. But units could sometimes be fluid. The area of a piece of land might be delineated by how many mouths it could feed. Among the northern European Saami people, a *poronkusema* marked how far a reindeer travelled before urinating.

Such measures changed with the landscape, and might seem far removed from notched bones. But this deeply researched history by James Vincent clarifies the connection. To begin with, humans are list-makers. From Aristotle's "Categories" to the Linnaean taxonomy of biology, people are splitters, not lumpers, forever seeking to parse and quantify the world.

Medieval monks punctuated the day with prayers, leading them to fashion the first mechanical clocks. To divide days is to measure time, and measurement, Mr Vincent says, is a cornerstone of cognition. Yet it is a political phenomenon, too. Honest weights and measures crop up frequently in ancient history as guarantors of social order, from Hammurabi's code in Babylon to the Talmud and the Bible, which mentions measurement more than charity.



Let me count the days

The leaders of the French revolution were so taken by the social power of measurement that they undertook an almighty project: metrification. They wrangled the quarter-million known units into one fixed, decimalised system, "for all times and for all peoples", embodying the ideals of the Enlightenment in scales and tape-measures. Naturally, they turned first to nature, defining a metre as one ten-millionth of the length of the meridian running through Paris.

The years-long surveying project was another bold abstraction from human experience. But the resulting metre-long lump of platinum reflected a truth Mr Vincent says is fundamental: humanity's measures contain biases and follies. Because the Earth is not quite a perfect sphere, estimates of the meridian's span can vary by latitude. And one of the surveyors' instruments had a tiny, wilfully ignored error.

No matter, as long as all agree on a standard. Yet standards do not serve everyone equally, and can impose social control as much as aid order. Early continental-scale surveys of America, conducted using 66-foot-long chains, produced maps with rail-straight lines. They were handy for taxmen but glossed over mountains, canyons and other wild variations in terrain, not to mention the native peoples whose territory was erased.

Then there is a human tendency stronger than that of measuring: habit. France's decimalisers flopped with their ten-hour clocks; workers despised their ten-day weeks. Mr Vincent traces the enduring resistance to metrification, meeting an activist in Britain who pastes imperial units over metric signs. Quantification, moreover, sometimes goes too far. The eugenicists who, addled by bogus statistics, advocated forced sterilisations are the grisliest example. Others are comical. Charles Piazzi Smyth, a 19th-century Scottish astronomer, wrote a three-book opus on how measuring the Great Pyramid of Giza using a "royal cubit" could divine the future.

It is easy to revile the eugenicists or mock the pyramidologists. But today's "quantified self" movement, which imbues data spilling from personal gizmos with predictive power, may also be over-promising. Measurements only encompass so much wisdom. Like the hunter-gatherers, though, the smartwatch-wearers will doubtless measure on. ■



World in a dish

Assimilation nation

A tale of pastrami, kasha varnishkes and upward mobility

Pickled vegetables, fish and meat preserved in salt, and bread made from rye flour, or baked in a circle with a hole in the middle, were once staple foods for the poor of all backgrounds in central and eastern Europe. But it was Jewish emigrants who brought these recipes to the West, particularly to America, in the late 19th and early 20th centuries.

Bagels, lox, pastrami and pickles became mainstays of Jewish deli cuisine, which is the subject of a small, well-curated exhibition at the New-York Historical Society called "I'll Have What She's Having". (The name comes from a scene in "When Harry Met Sally" in which Meg Ryan exaggerates, but not by much, the deliciousness of the menu at Katz's Delicatessen on the Lower East Side.) The exhibition implicitly asks whether a cuisine that has delighted millions, and helped define the palate of America's biggest city, continues to be vibrant today.

There is a distinctly elegiac undertone. Though some stalwarts endure—notably the 2nd Ave Deli in New York, Manny's in Chicago, Shapiro's in Indianapolis and Langer's in Los Angeles—over several decades the number of Jewish delis in America has plummeted. Black-and-white pictures of long-gone people eating at long-gone places line the exhibition's walls. Among the objects on display are a cigarette machine and a case of matchbooks: items from a smokier, vanished world. On a recent afternoon, more than a few visitors, your columnist included, wandered through the exhibit in a nostalgic fog, eyes moist above their smiles.

After all, the Jewish deli is an artefact of a bygone era, shaped by immigration, discrimination and inner-city life. As immigrants' children assimilated and moved away, the deli became one of many culinary choices—an option steeped in memory and meaning, perhaps, but less a locus of communal Jewish life and more a pleasant place to occasionally eat and reminisce (not always in that order). That may be sad for deli owners and *kasha varnishkes* addicts, but it is also something to celebrate. The anti-Semitism that kept Jews out of the suburbs and impelled them to seek safety in numbers had waned.

Meanwhile, deli food itself has escaped its confines, too. Fast-food chains sell (admittedly appalling) pastrami and corned beef. For a while, McDonald's in Germany offered a "Grilled Texas Bagel". That is a nonsensical phrase to a deli maven: a decent bagel belongs nowhere near a grill and has nothing to do with Texas. But it suggests that bagels—like pizza, hot dogs and other foods once tethered to particular ethnicities—now come across less as specifically Jewish than as broadly American.

The most hopeful part of the exhibit is at the end: a case of menus from modern delis such as Wise Sons in California and the General Muir, a terrific spot in Atlanta. They were founded by young Jewish chefs determined to keep their culinary traditions alive—not because prejudice left them no other outlet, but because the food is delicious, inspiring and an irreplaceable tile in America's culinary mosaic. ■

American history

Siege in the capital

American Caliph. By Shahan Mufti. *Farrar, Straus and Giroux; 384 pages; $30*

This book packs a lot into its fast-turning pages. A family is massacred. Two giants of American sport, Muhammad Ali and Kareem Abdul-Jabbar, find themselves on opposite sides of a religious battle. Racial and global politics swirl. A future mayor of Washington is shot—and nearly 150 people are held hostage. Shahan Mufti pulls out all the stops to tell the extraordinary but largely forgotten tale of a man deranged by grief and ambition.

"American Caliph" focuses on Hamaas Abdul Khaalis, leader of the Hanafis, a black Muslim group that took its name from an old strand of the faith—and became caught in a vicious rivalry with the Nation of Islam (NOI), the movement led by Elijah Muhammad that for several years included Malcolm X. Khaalis's story climaxes in a bloody siege. On March 9th 1977 he and his men took over three buildings in Washington: B'nai B'rith International, a venerable Jewish community organisation, the Islamic Centre of Washington, America's biggest mosque, and the District Building, which houses the offices of the municipal government. The terrifying stand-off lasted almost two days.

This part of the narrative reads more like a thriller than political history. But the book begins with Khaalis's troubled past. On one reading, he had been a young man tormented by schizophrenia. On another, he was a con artist who had dodged military service in the second world war—and the criminal-justice system—by feigning mental illness. Born Ernest McGhee in Gary, Indiana, in 1922, he became a Muslim and a devotee of the NOI, which combined a version of Islam with a belief in black supremacy. As its leader Elijah Muhammad was also, to his acolytes, the leader of all America's Muslims: the American caliph.

Khaalis soon grew dissatisfied with the NOI. He wanted to turn it away from black supremacism and towards a more traditional version of Islam; his movement was backed by Mr Abdul-Jabbar, a basketball star. And Khaalis coveted the title of American caliph. The ideological battle became violent: in a horrific massacre in 1973, seven people, including five of Khaalis's own children and grandchildren, were drowned or shot to death in Washington. He sank into a depression—until he spied a new cause, and a chance to be avenged, in ▸▸

the release of a controversial film.

No image of the prophet was actually shown in "Mohammad: Messenger of God", directed by Moustapha Akkad, a Syrian-American who later produced some of the "Halloween" horror films (and died in a terrorist attack in Jordan). But that did not placate those Muslims who considered the movie to be sacrilegious. Several prominent figures, including Saudi Arabia's then crown prince, tried to shut it down. But the film-makers prevailed, largely due to the support of Muammar Qaddafi, the Libyan despot. In 1977 a premiere was scheduled in New York.

In a final bid to prevent the screening, Khaalis and his followers seized the three buildings in Washington and demanded that the film be banned in America altogether. Khaalis also requested visits from Elijah Muhammad's son, who had assumed the NOI's leadership after his father's death, and from Muhammad Ali, for some years a follower of the NOI. And he wanted the men convicted of murdering his family to be delivered to him, presumably so they could be executed.

Two people in the occupied buildings lost their lives. Marion Barry, later the capital's mayor, was wounded. Khaalis died in prison in 2003.

Mr Mufti artfully weaves wider historical events into his story, such as Malcolm X's assassination, new laws that facilitated Muslim immigration to America, even the seizure of the Suez canal by Gamal Abdel Nasser, Egypt's leader. These elements supply the rich context of a saga that builds in tension until the last gripping moments. The reader is left wondering how this extraordinary tale could ever have been so neglected. ■

Back Story Iceberg, right ahead

In 1997 "Titanic" was a thrill. Twenty-five years on, it feels like a prophecy

HE WAS KING of the world. The late 1990s were an age of hubris, and James Cameron, the director of "Titanic", earned his. Launched 25 years ago, his film was the most expensive ever made—beset, before its release, by doubts about its minor stars and the glum storyline. Effortless sinking-themed headlines awaited. It became the first movie to earn $1bn and won 11 Oscars. At the awards ceremony, which in those days people still watched, Mr Cameron crowned himself world king in an exultant line from the screenplay.

There have been many adaptations of the *Titanic* story, before and after this one. A silent short came out a month after the disaster in 1912, starring a real-life survivor. A lunatic Nazi propaganda version was shot during the war on Joseph Goebbels's orders. "A Night to Remember", a poignant effort of 1958, overlaps with "Titanic" in scenes and motifs—the heavy-handed ironies, a game of ice football on deck, a child gazing at distress flares as if they were fireworks. In both, the band's musicians play on, say their farewells, then play on again.

Yet for all the competition and its clichés, "Titanic" rules the waves. A quarter of a century on, people are still arguing on the internet over whether, in the finale, Jack could have squeezed onto that bit of debris with Rose. The appeal is not just the lavish sets and special effects or Leonardo DiCaprio's cheekbones. Crucially, Mr Cameron sneaked two films into one three-hour movie, which hinges in the middle as the ship's hull does in his telling. Without the first half, "Titanic" would never have circumnavigated the globe in the late 1990s. With its vision of a flooding, flailing world, the second half makes it wrenching today.

The first part magnifies a banal experience to a grand scale, one of cinema's favourite tricks. Facing a stifling future, the posh, slightly annoying teenage heroine, played by Kate Winslet, meets a boy from the wrong side of the tracks. For all his rough edges, he is an artist, and is soon drawing her "like one of [his] French girls". Their first (and last) clinch is on the back seat of a car, only Rose reaches this rite of passage on a death-bound ocean liner and in the arms of Mr DiCaprio.

The Earth moves. The iceberg scrapes along the bow. As the lower decks flood, the romance is submerged in an action movie. The computer-generated imagery that was cutting-edge in 1997 already looks old-fashioned. Still, the story feels like a prophecy. All disaster flicks prefigure the end of the world, but "Titanic" eerily reflects the contours and countdown of the climate emergency.

The warnings about sea ice were ignored. Now the water is rising and the catastrophe unfolding. But there are still choices to be made. Amid a pageant of morality—guts and cowardice, egotism and devotion—there is time, just, to act.



Confronting the unthinkable, some people turn away for as long as possible. Some abjure the daunting unknowns of action and drown in their tailcoats or beds. The rest must decide who to save—themselves, their loved ones or strangers—and how. After a kind of aqueous "Indiana Jones", involving handcuffs, axe swings, locked grills and a shoot-up in a deluxe dining room, Jack and Rose selflessly rescue a small boy.

Much as it is today, the big challenge is to keep working together across classes and nationalities. Played by Billy Zane and his villainous eyebrows, Cal, the baddie, tries to pay his way onto a lifeboat: there are, after all, too few of them. The first-class rich fare better than the poor in steerage, in the movie as on the ship in 1912. As Mr Cameron has noted, the skewed death toll parallels the unequal impacts of climate change.

In the metabolism of Hollywood, tragedy leads to rebirth, and so, inspired by her fling with Jack, Rose swims off into a liberated future. The uncouth has set her free. As in other tales of love in adversity, like "Dr Zhivago" or "The English Patient", the audience must weigh the feelings of an attractive young couple who barely know each other against a historic calamity. The heritage smooching aside, though, one of the film's most important tweaks to the factual record lies in something it leaves out.

On the night the *Titanic* sank, another ship, the *SS Californian*, was anchored close by, its wireless operator asleep. The film glosses over this agonising detail in order to concentrate the drama on the doomed liner. From an allegorical point of view, too, the omission is apt. In the real, warming world, no outside help is possible; the heroes and villains are all on board. We are all Rose and Jack now.



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Economic & financial indicators

Economic data

	Gross domestic product % change on year ago latest		quarter*	2022†	Consumer prices % change on year ago latest		2022†	Unemployment rate %		Current-account balance % of GDP, 2022†	Budget balance % of GDP, 2022†	Interest rates 10-yr gov't bonds latest,%		change on year ago, bp	Currency units per $ Nov 23rd	% change on year ago
United States	1.8	Q3	2.6	1.7	7.7	Oct	8.1	3.7	Oct	-3.5	-5.5	3.7		204	-	
China	3.9	Q3	16.5	3.3	2.1	Oct	2.0	5.5	Oct‡§	2.5	-7.1	2.6	§§	-13.0	7.15	-10.8
Japan	1.8	Q3	-1.2	1.8	3.8	Oct	2.2	2.6	Sep	1.9	-6.1	nil		-8.0	140	-17.7
Britain	2.4	Q3	-0.7	4.4	11.1	Oct	8.0	3.6	Aug††	-6.4	-6.3	3.3		242	0.83	-9.6
Canada	4.6	Q2	3.3	3.1	6.9	Oct	6.7	5.2	Oct	1.6	-2.7	3.0		116	1.34	-5.2
Euro area	2.1	Q3	0.8	3.1	10.6	Oct	8.5	6.6	Sep	1.3	-4.3	1.9		214	0.96	-7.3
Austria	6.0	Q2	11.5	4.7	11.0	Oct	8.8	5.1	Sep	0.5	-4.1	2.5		246	0.96	-7.3
Belgium	4.1	Q2	2.2	2.2	12.3	Oct	10.0	5.7	Sep	-1.2	-5.2	2.6		245	0.96	-7.3
France	1.0	Q3	0.6	2.4	6.2	Oct	6.0	7.1	Sep	-1.8	-5.4	2.5		245	0.96	-7.3
Germany	1.1	Q3	1.1	1.4	10.4	Oct	8.4	3.0	Sep	3.9	-4.4	1.9		214	0.96	-7.3
Greece	7.8	Q2	5.0	5.5	9.1	Oct	9.9	11.8	Sep	-6.3	-4.5	4.2		285	0.96	-7.3
Italy	2.6	Q3	2.0	3.7	11.8	Oct	8.7	7.9	Sep	-0.8	-5.9	3.8		273	0.96	-7.3
Netherlands	3.1	Q3	-0.9	4.6	14.3	Oct	12.4	3.7	Oct	6.0	-0.9	2.2		228	0.96	-7.3
Spain	3.8	Q3	1.0	4.4	7.3	Oct	9.2	12.7	Sep	0.2	-5.4	3.0		259	0.96	-7.3
Czech Republic	3.6	Q2	-1.6	2.0	15.1	Oct	15.7	2.2	Sep‡	-3.7	-5.1	4.8		213	23.5	-3.6
Denmark	3.5	Q2	2.0	2.8	10.1	Oct	7.9	2.5	Sep	9.0	0.9	2.2		212	7.17	-8.0
Norway	2.5	Q3	6.3	2.2	7.5	Oct	6.2	3.2	Aug‡‡	17.3	11.3	1.4		76.0	9.96	-10.4
Poland	5.3	Q2	-9.3	5.0	17.9	Oct	14.6	5.1	Oct§	-3.4	-3.7	6.8		339	4.53	-7.7
Russia	-4.0	Q3	na	-3.6	12.6	Oct	14.0	3.9	Sep§	12.9	-2.8	10.3		171	60.6	23.8
Sweden	3.1	Q3	2.8	2.2	10.9	Oct	7.9	7.1	Oct§	3.0	-0.5	1.9		170	10.5	-13.8
Switzerland	2.4	Q2	1.1	2.0	3.0	Oct	3.1	2.1	Oct	5.6	-1.0	1.0		116	0.94	-1.1
Turkey	7.6	Q2	8.5	5.0	85.5	Oct	74.1	9.9	Sep§	-7.8	-3.3	10.5		-966	18.6	-32.0
Australia	3.6	Q2	3.6	3.5	7.3	Q3	6.0	3.4	Oct	2.3	-1.7	3.6		172	1.49	-6.7
Hong Kong	-4.5	Q3	-10.0	-2.5	1.8	Oct	2.0	3.8	Oct‡‡	4.3	-6.4	3.7		208	7.82	-0.4
India	13.5	Q2	9.5	7.0	6.8	Oct	6.9	7.8	Oct	-2.5	-6.4	7.3		93.0	81.9	-9.1
Indonesia	5.7	Q3	na	5.0	5.7	Oct	4.5	5.9	Q3§	2.1	-3.9	7.0		82.0	15,686	-9.1
Malaysia	14.2	Q3	na	6.0	4.5	Sep	3.4	3.6	Sep§	1.6	-6.1	4.3		75.0	4.58	-8.3
Pakistan	6.2	2022**	na	6.2	26.6	Oct	19.8	6.3	2021	-4.4	-7.6	13.0	†††	117	224	-22.2
Philippines	7.6	Q3	12.1	7.7	7.7	Oct	5.4	5.2	Q3§	-4.2	-7.8	7.2		215	57.0	-11.2
Singapore	4.1	Q3	4.6	3.5	6.7	Oct	6.1	2.0	Q3	18.8	-1.0	3.1		128	1.38	-0.7
South Korea	3.0	Q3	1.1	2.6	5.7	Oct	5.2	2.4	Oct§	1.1	-3.2	3.8		138	1,352	-12.0
Taiwan	4.1	Q3	6.6	3.0	2.7	Oct	3.0	3.6	Oct	14.0	-1.4	1.6		95.0	31.2	-10.9
Thailand	4.5	Q3	5.0	2.8	6.0	Oct	6.0	1.2	Aug§	-1.2	-5.0	2.7		93.0	36.3	-8.7
Argentina	6.9	Q2	4.2	5.0	88.0	Oct	73.8	6.9	Q2§	-0.6	-4.4	na		na	165	-39.0
Brazil	3.2	Q2	5.0	2.7	6.5	Oct	9.3	8.7	Sep§‡‡	-1.8	-6.2	13.9		222	5.39	5.0
Chile	0.3	Q3	-4.6	2.2	12.8	Oct	11.7	8.0	Sep§‡‡	-7.8	-0.3	5.4		-24.0	917	-11.5
Colombia	7.1	Q3	6.4	7.6	12.2	Oct	10.1	10.7	Sep§	-5.6	-4.7	12.9		472	4,878	-19.0
Mexico	4.2	Q3	4.1	2.7	8.4	Oct	7.9	3.1	Sep	-1.0	-2.5	9.1		147	19.4	9.9
Peru	1.7	Q3	1.8	2.6	8.3	Oct	7.8	6.0	Oct§	-4.0	-1.5	7.9		198	3.85	3.9
Egypt	3.3	Q2	na	6.6	16.2	Oct	13.3	7.4	Q3§	-4.6	-7.4	na		na	24.6	-36.0
Israel	7.6	Q3	2.1	5.9	5.1	Oct	4.5	4.1	Oct	2.9	0.3	3.2		216	3.42	-8.2
Saudi Arabia	3.2	2021	na	8.9	3.0	Oct	2.5	5.8	Q2	13.5	3.5	na		na	3.76	-0.3
South Africa	0.2	Q2	-2.9	1.9	7.8	Oct	7.0	33.9	Q2§	-1.3	-5.5	10.2		51.0	17.0	-6.8

Source: Haver Analytics. *% change on previous quarter, annual rate. †The Economist Intelligence Unit estimate/forecast. §Not seasonally adjusted. ‡New series. **Year ending June. ††Latest 3 months. ‡‡3-month moving average. §§5-year yield. †††Dollar-denominated bonds.

Markets

In local currency	Index Nov 23rd	% change on: one week	Dec 31st 2021
United States S&P 500	4,027.3	1.7	-15.5
United States NAScomp	11,285.3	0.9	-27.9
China Shanghai Comp	3,096.9	-0.7	-14.9
China Shenzhen Comp	1,995.5	-2.1	-21.1
Japan Nikkei 225	28,115.7	0.3	-2.3
Japan Topix	1,994.8	1.6	0.1
Britain FTSE 100	7,465.2	1.6	1.1
Canada S&P TSX	20,282.3	1.6	-4.4
Euro area EURO STOXX 50	3,946.4	1.6	-8.2
France CAC 40	6,679.1	1.1	-6.6
Germany DAX*	14,427.6	1.4	-9.2
Italy FTSE/MIB	24,581.1	0.2	-10.1
Netherlands AEX	721.5	1.7	-9.6
Spain IBEX 35	8,331.2	2.8	-4.4
Poland WIG	55,119.0	-0.9	-20.5
Russia RTS, $ terms	1,147.4	-1.4	-28.1
Switzerland SMI	11,094.5	1.4	-13.8
Turkey BIST	4,854.2	4.0	161.3
Australia All Ord.	7,422.4	1.3	-4.6
Hong Kong Hang Seng	17,523.8	-4.0	-25.1
India BSE	61,510.6	-0.8	5.6
Indonesia IDX	7,054.1	0.6	7.2
Malaysia KLSE	1,443.5	-0.3	-7.9

	index Nov 23rd	% change on: one week	Dec 31st 2021
Pakistan KSE	42,880.3	-0.2	-3.8
Singapore STI	3,256.0	-0.3	4.2
South Korea KOSPI	2,418.0	-2.4	-18.8
Taiwan TWI	14,608.5	0.5	-19.8
Thailand SET	1,624.4	0.3	-2.0
Argentina MERV	158,563.5	2.9	89.9
Brazil BVSP	108,841.1	-1.3	3.8
Mexico IPC	51,994.0	0.9	-2.4
Egypt EGX 30	12,600.1	2.1	5.8
Israel TA-125	1,899.4	-2.7	-8.4
Saudi Arabia Tadawul	10,965.4	-1.7	-3.2
South Africa JSE AS	72,891.4	0.4	-1.1
World, dev'd MSCI	2,697.4	1.5	-16.5
Emerging markets MSCI	932.3	-2.3	-24.3

US corporate bonds, spread over Treasuries

Basis points	latest	Dec 31st 2021
Investment grade	160	120
High-yield	488	332

Sources: Refinitiv Datastream; Standard & Poor's Global Fixed Income Research. *Total return index.

Commodities

***The Economist* commodity-price index**

2015=100	Nov 15th	Nov 22nd*	% change on month	year
Dollar Index				
All Items	147.1	145.5	2.5	-3.8
Food	137.3	136.5	-0.9	-0.8
Industrials				
All	156.3	153.9	5.4	-6.2
Non-food agriculturals	140.1	138.6	0.5	-8.8
Metals	161.1	158.4	6.7	-5.5
Sterling Index				
All items	188.7	186.9	-1.2	8.2
Euro Index				
All items	157.4	156.9	-0.8	5.4
Gold				
$ per oz	1,770.2	1,744.3	5.4	-2.2
Brent				
$ per barrel	94.0	88.5	-5.4	7.6

Sources: Bloomberg; CME Group; Cotlook; Refinitiv Datastream; Fastmarkets; FT; ICCO; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Urner Barry; WSJ. *Provisional.

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Victims of the energy weapon

High fuel prices could kill more Europeans than the fighting in Ukraine

To win his war in Ukraine, Vladimir Putin needs the West to stop supporting his adversary. His best opportunity to drive a wedge between them will arrive this winter. Before the war Russia supplied 40-50% of the EU's natural-gas imports. In August Mr Putin turned off the taps on a big pipeline to Europe. Fuel prices surged, squeezing the economies of Ukraine's allies.

So far, Europe has weathered this shock well, stockpiling enough gas to fill storage sites. But the rise in wholesale energy costs has still reached many consumers. Even though market fuel prices have declined from their peaks, real average residential European gas and electricity costs are 144% and 78% above the figures for 2000-19.

These costs pale in comparison with the horror Ukrainians have endured. But they still matter, because the colder the temperatures people experience, the more likely they are to die. And if the historical relationships between mortality, weather and energy costs continue to apply—which they may not, given how high current prices are—the death toll from Mr Putin's "energy weapon" could exceed the number of soldiers who have died so far in combat.

Although heatwaves get more press, cold temperatures are usually deadlier than hot ones. Between December and February, 21% more Europeans die per week than from June to August. This effect is greatest among the old: for people aged at least 80, who account for 49% of total mortality, death rates are 28% higher.

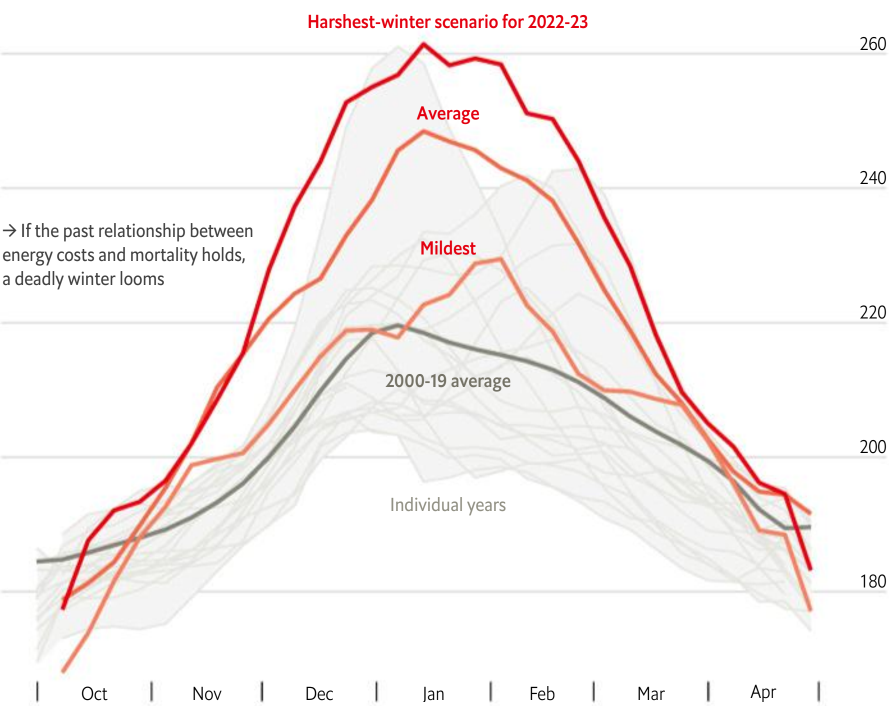
The winter death spike has two main causes. First, cold helps viruses. It inhibits immune systems, lets pathogens survive longer when airborne and leads people to congregate indoors. Second, as the body's temperature falls, blood thickens and its pressure rises, raising the risk of heart attacks and strokes. Irritated airways can also obstruct breathing. In Britain weekly death rates from cardiovascular causes are 26% higher in winter than summer. Those from respiratory diseases are 76% higher.

Surprisingly, the gap in seasonal death rates is greater in warm countries than in cold ones. In Portugal 36% more people die per week in winter than in summer, whereas in Finland just 13% more do. Cooler countries have better heating and insulation. They also tend to be unusually rich and have relatively young populations. However, when you compare temperatures within countries rather than between them, the data confirm that cold kills. On average, in a winter 1°C colder than normal for a given country, 1.2% more people die.

High fuel prices can exacerbate this effect, by deterring people from using heat and raising their exposure to cold. In recent decades consumer energy prices have had only a modest impact on winter mortality, because they have oscillated within a fairly narrow band. In a typical European country, holding other factors constant, increasing the electricity price from its lowest level in 2000-19 to its highest raises weekly death rates by 3%. In contrast, reducing the temperature from the highest level in that period to the lowest increases them by 12%. Now, however, prices have broken out of their prior range. The rise in inflation-adjusted electricity costs since 2020 is 60% greater than the gap between the highest and lowest prices in 2000-19.

Europe, average weekly deaths per million people

Scenarios for 2022-23 using electricity-price projection and other assumptions*



Cold war

Four main factors will affect how many people will die in Europe (outside Ukraine) this winter. For three of them, estimating plausible ranges is easy. Temperatures and the severity of the flu season will probably land between the highs and lows of recent decades. And although wholesale fuel costs fluctuate, many governments have imposed energy-price ceilings for households. Most of these caps are well above last year's costs, but they will shield consumers from further rises in market prices.

The final element, however, is much less certain: the relationship between energy costs and deaths. To estimate this, we have built a statistical model that predicts how many people die in each winter week in each of 226 European regions. The model applies to the EU-27 countries, except Malta, plus Britain, Norway and Switzerland. It forecasts deaths based on weather, demography, influenza, energy efficiency, incomes, government spending and electricity costs, which are closely correlated to prices for a wide variety of heating fuels.

Using data from 2000-19—we excluded 2020 and 2021 because of covid-19—the model was highly accurate, accounting for 90% of variation in death rates. When we tested its predictions on years not used to train it, it did nearly as well. Given average weather, the model finds that a 10% rise in electricity prices is associated with a 0.6% increase in deaths, though this number is greater in cold weeks and smaller in mild ones. An academic study of American data in 2019 produced a similar estimate.

This relationship can be measured only within the narrow range of energy costs seen in 2000-19. It could behave differently ▸▸

at higher prices. In cases like Italy's, where electricity costs are up nearly 200% since 2020, extrapolating a linear relationship yields extremely high death estimates.

Two other variables absent from long-run data could also affect death rates this year. Many countries have introduced or expanded cash-transfer schemes to help people pay energy bills, which should reduce deaths below the model's expectations to some degree. And covid-19 could either raise mortality—by making it even more perilous to shiver through cold weather—or lower it, because the virus has already killed many of the old, frail people who are most vulnerable to the cold.

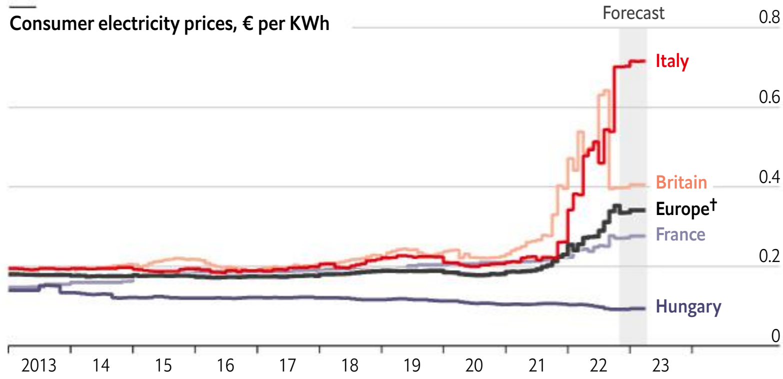
Such uncertainty makes it hard to predict mortality in Europe this winter with confidence. The only firm conclusion our model provides is that if the patterns from 2000-19 do continue to apply in 2022-23, Russia's energy weapon will prove highly potent. With electricity prices near their current levels, around 147,000 more people (4.8% more than average) would die in a typical winter than if those costs returned to the average from 2015-19. Given mild temperatures—using the warmest winter during the past 20 years for each country—this figure would fall to 79,000, a 2.7% increase. And with frigid ones, using each country's coldest winter since 2000, it would climb to 185,000, a rise of 6.0%.

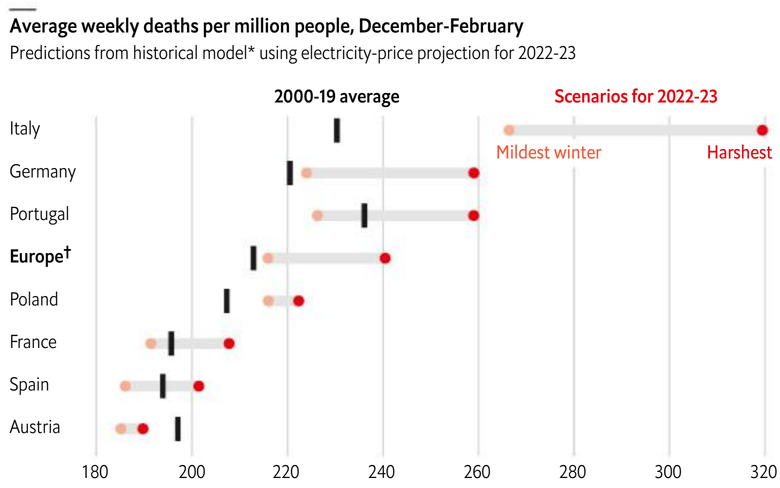
The size of this effect varies by country. Italy has the most predicted deaths, owing to its soaring electricity costs and big, ageing population. The model does not account for Italy's generous new subsidies for households, which focus on poorer users. These transfers would need to be very effective to offset such high prices. Estonia and Finland also do poorly on a per-person basis. At the opposite extreme, France and Britain, which have imposed price ceilings, fare reasonably well, and predicted mortality in Spain is nearly flat. In Austria, which will cap electricity prices up to a modest usage limit at a bargain €0.10 per kilowatt-hour, deaths are expected to fall.

For Europe as a whole, the model's estimate of deaths caused by energy-price increases surpasses the number of soldiers thought to have died in Ukraine, at 25,000-30,000 for each side. A comparison using years of life lost would yield a different result, since shells and bullets mostly kill the young whereas cold preys on the old. In addition, at least 6,500 civilians have died in the war. Given Russia's attacks on Ukrainian infrastructure, the European country in which the cold will claim the most lives this winter will surely be Ukraine.

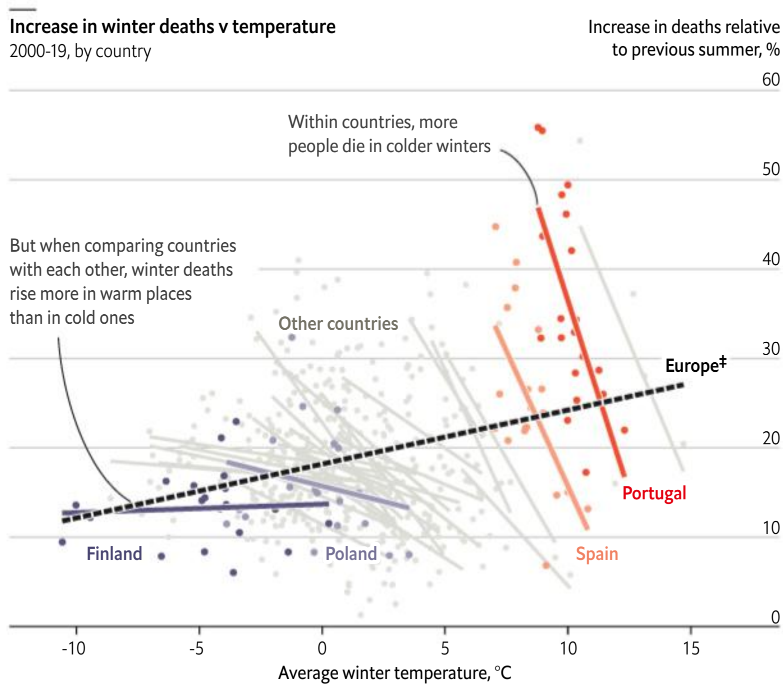
The damage Mr Putin is inflicting on Ukraine is immense. The cost for its allies is less visible. And yet, as winter sets in, their commitment will be measured not only in aid and arms, but also in lives. ■

→ Historically high energy prices could cause a spike in winter deaths





→ Warmer countries have bigger gaps between summer and winter deaths



*Including government interventions, assuming a normal flu season †EU-27 countries, except Malta, plus Britain, Norway and Switzerland ‡Weighted by population Sources: Copernicus; Eurostat; Energie-Control Austria; MEKH; VaasaETT; WHO; RIP.ie; ECDC; government statistics; *The Economist*



A mother's rage

Hebe de Bonafini, figurehead of the Madres de Plaza de Mayo, died on November 20th, aged 93

SHE DIDN'T see it, but neighbours did. On February 8th 1977 her elder son, Jorge Omar, aged 26, was carried from his house in La Plata hooded and unconscious. The men who had tortured and beaten him there thrust him into a car. Then he disappeared.

Ten months later, on December 6th, men came for her son Raúl Alfredo. They seized him at a union meeting in Berazategui. Like his brother, Raúl belonged to the militant Marxist-Leninist Communist Party. He dreamed of toppling by force the hard-right junta which, since 1976, had ruled Argentina. So he, too, disappeared. Two sons gone, only her daughter Alejandra left. Two among thousands of opponents of the regime who were mown down in shootings or thrown semi-conscious from helicopters into the ocean. No word of them afterwards, and usually no sign.

She had lived through those boys. In interviews she described herself, proudly, as a mother first. Jorge was a maths teacher, and had studied physics at university. Raúl worked at the La Plata refinery but had been to university too, studying zoology. She herself hadn't even finished primary school, because her parents were too poor to pay the bus fare. Though she buzzed with chatter and questions about the world, her mother made her learn sewing and weaving, suitable girls' things. At 14 she was married. She chafed to go to high school, even later in life, but her husband refused. So she had read almost nothing—and certainly not Marx, though people later thought she had swallowed him whole.

Her politics, like most other subjects, she learned from the boys. Jorge showed her how to read a newspaper: not from the comics backwards, as she liked to, but from the front page, the politics, first. He taught her, too, how to listen to the radio seriously. When Jorge was taken, she told Raúl to leave the country. He replied that he would rather die standing than live on his knees. The boys filled her house after 1976 with fugitives who needed somewhere to sleep, eat or hide. She helped as she could.

When the boys disappeared, therefore, she did not sit and cry. Instead, lions grew inside her. Furious, tireless, she went round morgues, hospitals and police stations to search for her sons. Nothing doing. She and her husband wrote and delivered petitions of habeas corpus. No one responded. Officials brushed her off; priests told her to pray. She sat for hours alone in the corridor of the Ministry of Interior. No one noticed her. She spoke mostly to the women she met who were like herself, mothers of the missing, with their tragic faces. Gradually they joined forces. The result was the formation in April 1977 of the Madres de Plaza de Mayo, a group that became world-famous for its open defiance of the junta and its defence of human rights.

Every Thursday at 3.30pm the mothers would meet in the Plaza, in front of the president's palace. At first they wore white terry nappies on their heads, then white headscarves, to symbolise motherhood. That scarf made her feel taller, like her sons' embrace. Meetings of more than three people were banned; but two by two, arms linked, they would walk silently round the square. The police beat them, dispersed them, sometimes arrested them; their first leader was drugged and drowned. But they kept on, with a kind of blind and desperate love. Grief became struggle. Her slogan was *¡Aparición con vida!* Make them appear alive!

Little by little, she gave up hope of that. The mothers' task became to track down the killers and see justice done. Under her leadership they dared in 1981 to stage a March of Resistance, parading round the square largely barefoot for 24 hours. That became an annual event. By 1986, however, with the junta three years gone, the mothers split apart. They all still wanted to work for the missing and the marginalised. But their tactics differed widely. One group preferred to work through legislation and the courts and, later, through DNA testing, to trace the children of the disappeared. Hebe's group, however, the Madres de Plaza de Mayo Association, had no faith in judges and no patience. The mothers she led were not, she said, a human-rights organisation. They were political, and refused government funding because the whole system had to be swept away.

She did not mince words. Fascism was intolerable, but social democracy and neo-liberalism were both worthless, too. Argentina's Congress was a nest of rats and vipers. She utterly opposed not only the army and the Catholic church but also capitalism, globalisation and the IMF. The attacks on the Twin Towers made her happy, because the United States had killed more people, through proxy wars, than any other country. Rightist politicians were *hijos de puta*, but Néstor Kirchner, a left-winger who made prosecutions easier (and whose funding she would accept), became her friend. Others were Fidel Castro, Hugo Chávez and the FARC guerrillas of Colombia. As she got older, still going on the Thursday marches and brewing up soup in the Casa de las Madres, she shouted louder. She remained, to many, an icon of resistance, no matter what she was resisting. When she got entangled in 2017 in the embezzlement of funds from an Association scheme for the homeless, she refused at first to appear in a courtroom.

And why not? Being independent was the most beautiful thing she knew. Her own mother had over-protected her, always fussing that she should wrap up warm for her asthma. Her husband, a good person, had still kept her locked to the washing and ironing. It was Jorge and Raúl, her brilliant, incredible, warrior children, who had begun to set her free. Both of them had campaigned for armed revolution. Now they were dead, she was their voice and breath. She would do their work for them.

In 2015 she went to the newly opened Museum of Memory in Buenos Aires, dedicated to the victims of the junta's Dirty War. She was disappointed to find no FAL automatic rifles there, the weapons her sons had been preparing to use. If the museum did not show how revolution could be made, what was the point of it? She was not only the seeker of her children's missing bodies. She was also the dogged promoter of their missing dreams. ■

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